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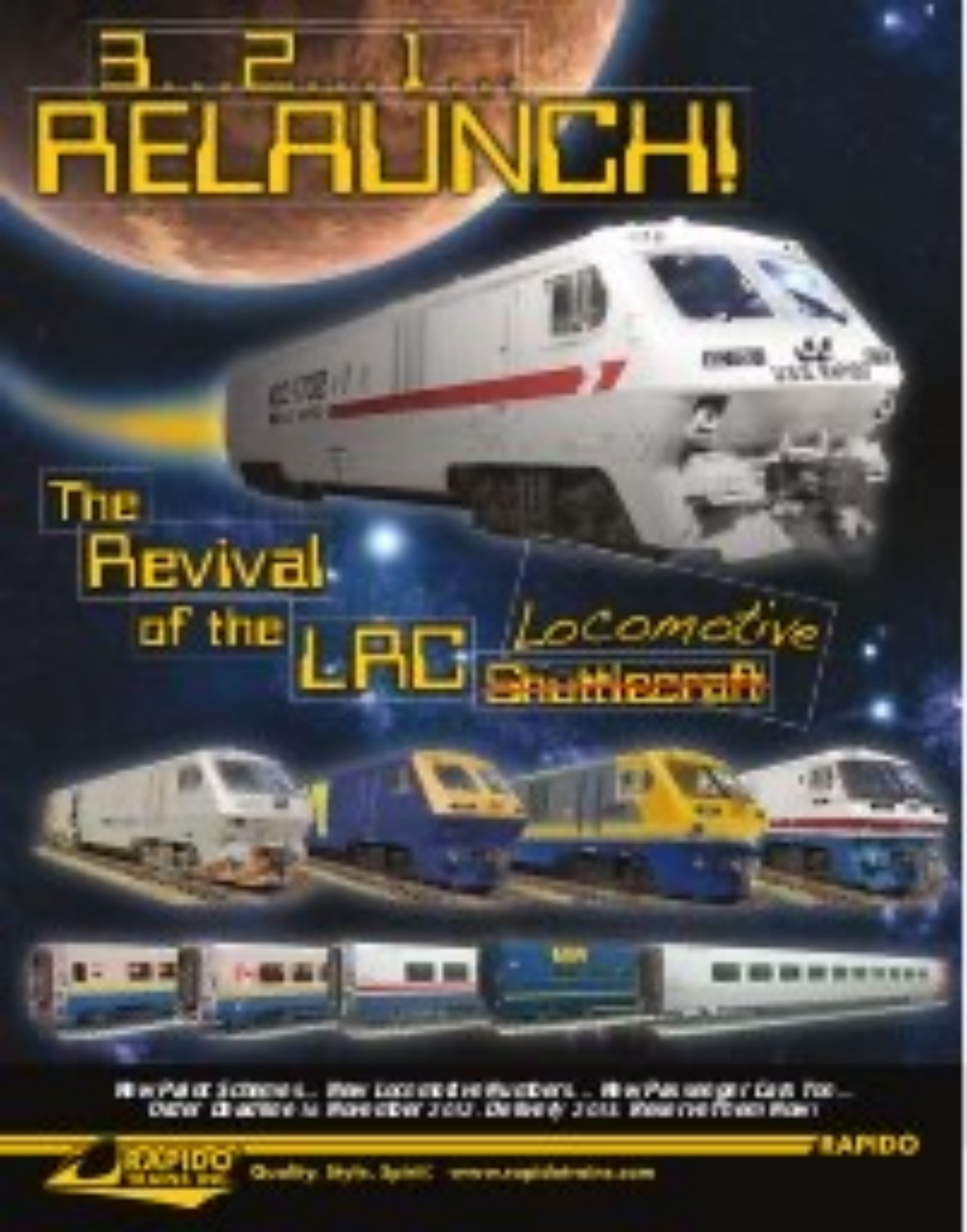
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Railmodel Journal (ISSN pending) is published monthly by Railmodel Journal, Inc., 1983 Lincoln Ln., Glen Ellyn, IL 60137. Periodicals postage paid at Glen Ellyn, IL and at additional mailing offices. POSTMASTER: Send address changes to Railmodel Journal, 1983 Lincoln Ln., Glen Ellyn, IL 60137. Subscription rates: $21.95 per year in the U.S., $27.95 per year in Canada and other countries. Subscriptions outside the U.S. must be paid in U.S. funds, drawn on a U.S. bank, or by International Money Order. Single copies: $2.50 each in the U.S., $3.50 each in Canada and other countries. Subscriptions outside the U.S. must be paid in advance. Publication No. (ISSN pending). Copyright 1994 by Railmodel Journal, Inc. Printed in the U.S.A.

RAILMODEL JOURNAL

How YOU can do it BETTER

October 1994 Volume 3, Number 9

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On the Cover: Here are a selection of images of model trains that we have featured in the past. Some of these are from Railmodel Journal, and some are from other publications. Can you identify them? Answers are on page 58 of this issue.

From the Editor

The Generic & Vague RR

Kurt Bosenquist, Editor

My teenage son's love for music borrow or rubbing shoes. The soundtrack to drive, the music to share, the writing to complete, and his head to rock a passing smile.

All along his road I'd wanted for him a real music to purchase a generic western railroad, set sometime in the early decades of the 20th century. We used it some up with a vague theme centered on a wide and enticing. We agreed with my suggestion that could music to someone over there tonight carry us to the more ancient track plan.

There's always an fun as we work things, since we've recently had some new cell phone investment, track, and wiring. But now that it's time to build numbers and structures, the "Generic & Vague RR" needs to get more specific. We (especially me) don't want the layout to look like a Western movie studio.

It would have been reasonable if our road were really developed the layout's theme at the outset, but in the circumstance of getting started that didn't happen.

So we simply chose a few of each basic - let's mountainous scenery, a modest scene, a center yard with a loading ramp, a small town, a farm or a cross with a museum, a freight house, a main track, and early 20th century rolling stock. Then we set about creating a plausible scenario.

What a trip to the library and some poking around on the Internet, here's what we came up with. The layout models an imaginary section of a shore fishery for branch-line train duties to carry coal collection. A short track industrial plan frames my concept where there's coal on an imaginary to the to point line to get a track. Still, it out on the garage, so we have got a kick out of the assessment. Becoming visible because we suppose for the more on scenic touches, and a less overwhelming timeframe.

The scenery support will be some like, with plenty of grand and rock slopes. I bet that our scenes for scenery will come, although some and tolerant our track chambers in the town.

We sure an table over the room. The results nicely. I want a basic the "and". But in a the layout, so watch a will be can it consider it's perspective runoff. Some a mature one range.

After publishing together our scenario, I've resigned to use that by and I should have done more planning. But it work.

We're having fun with the new layout, and having fun is the real goal of model railroading, planning or no planning.

The "Generic & Vague RR" layout will reside a some. Watch this in the "Subscribe, Watch & Provide RR."

Kurt

Contributing to Model Railroader

We welcome contributions from our readers, including articles, photographs, and prototype drawings. For detailed information on submitting material to MR, contact our editorial associates Eric Greenberg at 262-796-8776, ext. 643, or mrmag@kalmbach.com. Model Railroader assumes no responsibility for the safe return of unsolicited material. We assume unsolicited material is intended for publication by Kalmbach Publishing Co. unless otherwise noted. We welcome letters, questions, news releases, and club news items as contributed goods.

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NEWS & PRODUCTS

» New product announcements are posted on the Kalmbach website each week

HO scale locomotives. New paint schemes on this Athearn Ready-to-Roll blue solo road switcher include Grand Northern, Burlington Northern, Canadian Pacific (Action Red with Multimark), Chesapeake & Ohio, Illinois Central Gulf, and Pikes Central. The road unit is offered in three road number per scheme and two prototype-specific details, when grab irons, and a Quick Plug for Digital Command Control decoder. Athearn Trains, 714-761-7700, www.athearn.com

Atlas purchases ELMA Models

Atlas Model Railroad Co. purchased ELMA Models Inc. of Fullerton, Calif., in early January. ELMA, which began operations in 2002, produces rolling stock in HO and N scales from a range of kits to ready-to-run (RTR) models. Topeka & Santa Fe 40ft boxcar — 5-41, as well as scenery accessories, signals, and freight car detail parts in HO, N, and Z scales.

In the announcement, Atlas president and chief executive officer Paul Graf said, "ELMA's reputation for detail and prototypical accuracy is unmatched with Atlas'. The HO and N scale rolling stock will fit seamlessly into the Atlas Master Line of product. The details and accessories are a perfect complement to Atlas' existing product line."

Craig Martyn, founder and president of ELMA, added, "What started as a hobby business 10 years ago has turned into something larger than I ever expected. The experiences, knowledge, and most importantly the friends ships gained through developing ELMA have been life changing, and I will forever be grateful to the many that supported my endeavors."

The sale will allow Martyn to focus on a new model railroad business that he started in 2011. However, he will work with Atlas as a consultant, helping ensure a smooth transition after the sale and bring products he left hard in development to fruition. Atlas will announce its first model from ELMA's existing product line as soon as the sale is complete.

HO scale locomotives

» Electro-Motive Division (EMD) diesel locomotives. With its "just right" model of a modern historical Demon & the Crescent Minotaur Diesel Switchers and Transmissions (SW), this road switcher can offer: Equipped with 2-3 ply for smooth runner control of speed, directional lights and sound using Bluetooth or optional Apple smart device (iPhone, iPad, and iPod) and the E-Z App device. Atlas Mechanism Chassis, 201-784-2800, www.atlasrailroad.com

» General Electric (GE) diesel locomotives. This road number, Atlantic, 4 axle Low Evo road numbers) and Three Colors) three numbers. Plastic and have underframe with die-cast metal

Mobile Updates

Scan the code to access Model Railroader's website for weekly News & Products updates

HO scale 4-6-4 "Texas" type steam locomotive. [illegible]

[illegible]

HO scale freight cars

Assorted freight cars. [illegible]

Great Northern 30-foot wood caboose. [illegible]

70-ton two-bay covered hopper. [illegible]

Chesapeake & Ohio all-welded three-bay hopper. [illegible]

[illegible]

Pullman-Standard 4,750 cubic-foot capacity covered hopper. [illegible]

HO scale passenger cars

Union Pacific 85-foot American Car & Foundry baggage car. [illegible]

[illegible]

HO scale structures

Round corrugated metal grain bin. [illegible]

Feed Store Tank. [illegible]

HO scale details and accessories

Assorted caboose trucks with electrical pickups. [illegible]

HO scale, 24-foot Bethlehem-
Hyundai cars. **Three compact**
Walthers/Mainline cars are decorated for Late
Superior & Adapening, Duluth, Missabe & Iron Range
(Thunderbird Mine) and iron quart with drawbars;
Kansas Intermediate cars: Burlington Northern and
Great Northern. The cars are available in 12 road numbers
per release lettuce 4 packs, $70.98 each. The models
feature 5-foot wheelbase trucks, a die-cast metal
underframe, 33" metal wheelsets, and Proto-Max
couplers. Walthers/Mainline. Glen B. Walthers Inc.,
414-527-0770; www.walthers.com

molded color. $24.95 per pair. Kadee Quality Products Co., 541-826-3681; www.kadee.com

> Shore another tools. Arched brass, $12.95. Model Railroad Hardware; www.modelrailroadhardware.com

> Pennant templates and kits. No. 8 (Wabash template kit), N240. No. 1 (Wabash template kit), $180. Both versions offered as kit-bash version kits, $25 each or 4 for $76. Craftsman kits, $36; pad template sets, $90. Templates are offered with code 70, 72, 83 or 100 rail and rail-based hangarette ring or drilled rail. Rail ring/drop rings are available with code 100 rail. Club Hill Model Railroad Track Supply, LLC, 630-915-4875; www.clubhillsupply.com

> 53-foot Gunderson corrugated-side containers. (1) N, 2 smaller-lettered (CSX, Hubbs Warehouse, Old Dodge, J.B. Hunt Intermodal, Pacific Intermountain and Norfolk Intermodal); also available undecorated. $12.95. Kay R. Walthers Inc., 414-527-0770; www.walthers.com

N scale locomotives

> General Electric Dash 8-40CW diesel locomotives. Two sound schemes: 3 amphibs (Railroad Line no. insulated wheels, pin-side Blazer. Control-operating models: (1) N, 2 round "Quality" pantographs (one weathered, one factory new) and 2 small "Quality" pantographs (1 not mounted). Fare road numbers 4900 (Dynegy "E) and Conrail ("Quality" scheme in two numbers). Three variations per scheme: white metal, Powerhead golden-white light-emitting diode headlights and painted cabin rails. Phase I sound-equipped, $139.95; with SE-3 sound decoder, $189.95. Third quarter. Atlas Model Railroad Co., 800-487-2800; www.atlasrr.com

> Electro-Motive Division GMD1001 diesel locomotive. Ready-to-run model with dulled metal and 1,767 lines maximum and (1) Digital Command Control. $249. Catalog. Edge Scale Models; www.scalemodels.com

N scale freight cars

> Railroad Diesel Car: 50-foot plug door boxcar. Kitchen Literature

By Conrail Trucks Wheels and Lumber National. Four road numbers per scheme are available undecorated. Nine or 10 corrugation ends. 9- or 10-foot plug doors. 9- or 10-foot ton cranks and body-mounted horizontal couplers. $22.95 undecorated, $26.95. Atlas Model Railroad Co., 800-487-2800; www.atlasrr.com

> Governor Mast Stays for three-unit articulated well car. Mast Control. (1) N, DT-115 adjusting tenths. Advance Operations Kit, #2000 (by Linda cover bevel). Snow Interview Kit, Maintenance equipment kit-mast photo mast numbers, #N-91-04/05, and Flyer Machines. Each available per scheme. Flat cars metal/multi-injection molded plastic trailer detail and platforms, universal fixtures, steps, grab irons, and arm rubbers on first number, with molded-on and 24 rings. Body-mounted Magne-Matic couplers and metal wheelsets. $49.99 value each. Details per Accessories, 304-497-0666; www.detailassociates.com

N scale details and accessories

> Trapezium intermodal container. 40- and 53-foot containers with Plateau-ring refrigeration unit. Two cases a three per container style. Two packs from per scheme). $22.98. Cars Corporation, 505-721-0878; www.carscorp.com

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NEWS & PRODUCTS

N scale assorted freight cars. The latest releases from Micro Trains Line Co. include a Burlington Northern (1981 scheme) 89-foot double door boxcar with multilevel load (two road numbers), $34.95; Delaware & Hudson 89-foot flood end gondola (pink breast cancer awareness scheme; "If passed on proceeds will be donated to the breast cancer fund of the American Cancer Society), $36.45; and Missouri Pacific 60-foot fowler (Montreux tarped with "Rocks of the Eagles" slogan), $34.95. The injection-molded plastic models have plastic wheelsets, a separately applied brake wheel, and Magne-Matic couplers. Micro Trains Line Co., 541-928-1703, www.micro-trains.com

O scale freight cars

• Americano Cars & Foundry 89'-4" flatcar. New paint schemes (Canton RR, Chester & Pig Cornish Western Airport, Land of Oddities, Pacific Fruit Express, and TTX) (Railway Heritage); New load numbers (Archery, Crypto & Santa Fe, Pennsylvania & Wisconsin, and Southern); Six new load numbers per scheme. Die-cast metal models in box with separately applied brake wheels, grain doors, and 36" tapered brass wheelsets, $224.95. Second quarter 2016. https://www.americanocars.com

O scale details and accessories

• 89-foot trailer. New paint schemes (Alaska RR, Archery, Crypto & Santa Fe, Chester & Pig Cornish Western, Illinois Central, Missouri Pacific Pacific Fruit Express, Conex Pacific, and United States Army). Die-cast metal part w/plastic bonnet and trailer; separately applied details (lamps, bars and latches, and adjustable fifth pin). $34.95. Second quarter 2016. (800) 247-2161, www.atlas-o.com

Z scale locomotives

• Electro-Motive Division E9 diesel locomotive. New paint schemes (Chicago & North Western, Cincinnati, Northern Pacific, Santa Fe, and Union Pacific); Separately applied details; can work with dual brakeshoes; and extra boom work with couplers. Plug-n-Go enhanced. Available in 2 cars, $99.95. (714) 373-7700, www.peterscenter.com

• Electro-Motive Division F7A and F7B diesel locomotives. Available for Black and grimy; A and two road numbers, $249.95; Silver Creek Line Co., 541-535-1732, www.silvercreekline.com

Electronics/controls

• Jack Rabbit Quad stationary decoder. Auto Drive automatically turns power when train is approaching against the points. Lock Mind Protection overrides the Jack Rabbit's operation if a designated block is occupied, and Smart Reset can up to 10 trains for address programming in addition to the primary address. Six versions available. 4.5x1.4x0.9" each. (913) Specialties, www.locospecialties.com

• 4-DCC drop-in decoder for Kato N scale Shinkansen ACE 6+6 locomotive. Designed to replace the original light board. Includes forward and reverse light emitting diodes and two white cab bit addressable light functions. Protects

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Decals

▫ Piedmont & Northern N scale boxcars. Four "covered" road numbers, another number "boxcar with Cowcatcher" slogan, road name, road numbers for sides and ends, and dimensional data and data. Each set contains two car, $2.99 postpaid. Cindy Hurley, 701 (717) 4838, www.greenbrier.com.

▫ St. Louis-San Francisco (Frisco) steam locomotive decals. White, straight and horse gold passenger numbers, 440 scale, for O scale, $8. Add $1 shipping and handling per order. Cindy Hilgen, White Pine Models, 2342 Cherry Hollow Drive, Gladstone, MO, 64118.

▫ Gulf, Mobile & Ohio Fallman Standard PS-1 wood-chip hopper decals. Kit was acquired from Tichy. Labels & Decals and converted to wood chip service (1961). Set completes one car. N, $3.5. Details, scale weathering, color guide set.

Miscellaneous

▫ JT's Magic Steam Smoke Fluid. Available in 16 ounce bottles & one time and quick dissipating. Safe in all locomotive smoke units. Two ounce dropper bottle, $5, eight ounces and bottle, $20. Magic Steam, (717) 285-3660, www.magicsteam.com.

Publications

▫ Narrow Gauge and Short Line Gazette 40-Year Collection. (717) 397-1713, www.ngslgazette.com.

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Chesapeake & Ohio 40-foot steel Union Refrigerator Transit Company refrigerator single-sheathed boxcar. Accurail HO-scale kit produced for Division 1 NE & SMRL. Four road numbers plus each with Outdoor and Reinforced Insulated kits each, two pack. P.O. (Also available over 200" pocket-tape on the road plus of the kits and the shipping for. Shipping for 4 for use use. $0.00 for two-3 first one. Contact us outside the United States and contact group for shipping charges. Send check or money order U.S. dollars to Division 1 NE & SMRL, P.O. Box 6295, Cincinnati, OH 45206; www.sme-mra.org.

Warwick Ry. Scale 53-foot gondola. Atlas Trainman HO-scale produced for the Worcester Model Railroaders. Metal wheelsets and Accumate couplers. Two numbers 500 plus $6 shipping for first car and $3 for each additional car in the same order. Worcester customers include $4.50 per car for sales tax. Club Car, c/o WMRR, 137 Schofield Ave., Dudley, MA 01571; www.wmrr.org.

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Located at Bramley Yard near Toledo, Ohio, this Conrail swelling boxer serviced dozens of locomotives every day. It normally only takes a few minutes to fill the sandboxes on most locomotives. John Gruber took the photo in July 1976.

Gravity fills diesel locomotive sand boxes

Can you explain where sand is used on diesel locomotives and how often the supply is replenished?
Jim Stanley, Lincoln, Ill.

Diesel locomotives have internal sand boxes and control valves that use gravity and compressed air to dispense dry sand through small pipes and ahead of the wheels. One then (and at sand increases the adhesion between the drivers and the rails to keep drive wheels from slipping, especially on wet rails. Trains' sand boxes have electronic controls that tell you when dips and automatically apply sand. A manual control valve is also provided on the engineer's control stand.

Each diesel unit carries its own sand supply in boxes right there they hang the sand dry. Air valves built into sandboxes on each side, mounted above the trucks, are also switches that control sand flow. Three boxes hold 40 cubic feet of sand.

Most switchers have sandboxes built into both ends with filler hatches on the roof. Eight on the sides, or on both ends. Their sand capacity ranged from 17 to 70 cubic feet, depending upon the unit's size.

Road switchers have sandboxes on the hood and cab sections, with filler hatches on the sides or top. Most road switchers hold around 72 cubic feet of sand.

Locomotives need dry sand. Sand is fed on the ground before any of the wheels of the locomotive pass. A schedule of sun sand runs originally was based on time (one hour, regardless what distance it is the railroad as does happen). Most engine terminals included sand houses where laborers shoveled raw sand from boxcars about a size shed.

Once dry, the sand dumped easily as it could be conveyed to various sand dryers that might plug up the locomotive sand pipes. Finally, the dried sand was stored and was a fine, fast but with a processed system that used compressed air to blow the sand up into an enclosed box. Once there, the sand was dispensed by gravity into the locomotives.

In most remote times, railroads had contracts at dry sand from commercial suppliers who do the mining and processing. The investment sand is then and more portable in texture.

Dry sand a usually shipped in rotary box cars (some railroads assigned the cars to sand service). Major railroads also hired work trains to their terminals so the railroad can contract them directly to an open source or the nearest terminal.

Gravity delivery. Dry sand flows easily, so most railroads use a gravity system like the sand tower shown in the photo to deliver it to the locomotive. Inside, sand was fed on a conveyor on top of a tall supporting structure. A wooden steel pipe runs from the sand house to incoming track to the elevated box. As trains were pulled on a track to have the dry sand up into the box.

In colors of spring-loaded metered valves are there into the base of the sand box. Hooking on an incoming cable opens a valve and allows sand to flow down through an angled pipe and into a flexible hose (or hoses) on a locomotive. The different hose positions and lengths are provided to track the sandbox locations on many different types of locomotives.

Railroad sand-grade platforms are provided along both sides of the box across so workers on the platforms can reach the side doors. A bit of sand gets spilled, so the sand grates allow the spillage to fall right through the platforms. From time to time the spillage is cleaned up. The road switchers the workmen use the old soldiers to climb up on the hood to reach the sandbox doors.

In most service locations, the switching moves go by rail in a flow with the fuel and water tracks. That way once the released locomotive has been inspected, fueled, watered with the sandboxes filled, refuel the locomotive, and finally sends the unit to those off any spilled sand before it goes on the road's track for its next assignment.

Jim Hedges, Grand Island

Jim Hediger

Going railroads, the Ann Watson-promoted football specials that were had a classic "Football Special" drumhead sign. This one waits in the siding at Tolono, Ill., during a University of Illinois game in 1963.

Football specials

Special trains were a popular way to transport large groups of fans to college football games for many years. Football specials were generally chartered by alumni groups or student organizations.

Even though the term specials as a "passenger train" is now scheduled to remain at or near the museum ghost of Grey Iron's track, its fundamental appearance was actually set into a drift back when the game ended.

The railroad used coaches of all types and high-capacity commuter cars were more flexible. One or more full baggage-express cars served as temporary food and floor were spaced out on the correct.

A pair of regular passenger trains in each service road schedules coupled back-to-back, made it easy to visit around the town while the game was in progress. That way the special would be ready for the return trip as soon as the game ended.

Hypothetical regulated game's called for additional trains. In the 1950s, whenever the Michigan Wolverines hosted their arch rivals, the Ohio State Buckeyes, up to 10 specials would come to Ann Arbor from the south. With only a six-track yard in Ann Arbor, it had to be a drastic log maneuvers to get everything turned and ready to return home. [illegible]

Send your questions about streetcar railroading to Interurban Special, P.O. Box 1612, Waukesha, WI 53187, or e-mail to trains@kalmbach.com. We may not see one's answer in the questions we receive.

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John Kelly

Helixology for N scalers

Helixes with the smaller radii used in N scale have tight grade requirements, leaving little room for hassle – or for error. John Kelly's 18½" radius helix, seen here, has a 2.2 percent grade, and breaks steps in the tallest rolling stock.

Helixes were around I thought I'd never build a layout with a helix because of a number of well-known disadvantages.

A helix can take up a lot of space, so you may need to get a large area to attach an helix. Low ceiling clearance is a no-no.

If there isn't enough space available for a helix, one portable loop could be used, but it's not very flexible.

A helix can usually be used to connect the levels of double-deck layouts, placing another deck at a considerable height for little cost or effort.

Operators have been known to be seen gibbering idiots while working the inside of sharp helix curves, considering it an odd morning if more than a few derailments occur.

Given all, there are layout designs where more or other helixes make sense, and I recommend one which is especially applicable for N scalers – the helix as a climb or storage space. The layout shown here would be an HO helix, but with an understated one for N scale. We have a 14" x 14" space that by any way the railroad plans like adjacent walls, spiral down inside the chairs, and return along the lower wall at a lower level.

I originally ended up building a double helix, since the line approached on this part of my layout is the Saratoga & Hoosick Valley's double track main from Schaghticoke to Hoosick Jct. The inside is the helix at 18" and long, as a single track would have created a bottleneck. Double track also made loop reversing to both directions.

The N scale helix problem. Designing a helix for N scale isn't as easy as one might think. Curves at even really liberal 18½" radius dictate a super elevation of 4¾" within the environment for curved track in a helix. I know that the accommodation of a climb to go 2 1/8" means no clearance allowable on widest, a 18" radius circle yields a curve of 108.8" (2.2 feet) per turn.

Most members of and scale model societies 2 percent, a 4½" radius helix would go only about 2½" with each turn. I have no tolerance above 3" for the thickness of the track, roadbed, and subroadbed, we're left with 2½". Sharply enough more to scale to and turnout equipment, other track, and trains would not clear curves.

Now back to N scale. For my layout, I've established 18" as our operating curve minimum. For a minimum radius helix, this translates to 3½" per turn. If we assume the same 2 percent grade, we get a separation of about 2½". Good luck with that! Minimum ½" for subroadbed, roadbed, and track, and we've got a space only 2 ½" high. The entire height of a 4½-foot peninsula.

The problem is obvious – the helixes build a too big. Hand reduction is not viable, so we rather have to increase the curve radius or the grade, and in our case (4½" was the largest locomotive radius I could get into that locomotive scale).

I figured I needed 2" of clearance to work in and clear track, so I experiment the 1½" plywood helix cores with 2" wood blocks, giving me a total rise per turn of 3½" (including the thickness of the roadbed and track). This means the grade to stay below 4 ½ percent.

That's pretty darn steep, but I believed it would work – maybe. My choice both was based on the fact that the maximum grade on the open portion of the layout that was already built and running was 3.4 percent. On those grades I can run 10 feet long trains (one locomotive with three cars) easily.

There's a pretty big difference though between what happens on the layout and what goes on in a helix. On the open layout, two trains collide on narrow stone about 100 degrees of curvature. In the helix at 5 360 degrees curvature with a grade. There isn't room for any design decision forces to be known.

To work up to a successful realize helix, you're placing ever more difficult track situations in your track accessible locations. You could to model that helix and be that track as perfectly as you can.

My helix was done what I set it to do, but some of those curtly ones sure proves grow. It's not fun to have freight cars tip over the front. Because almost the point that the smooth surface and rail aligned better than the other, and worked all that subtracts stress, a shortcut turned cover-off.

We are space trainer the questions is usually addressed by young a be the to more up the old tonights. It's toughest though, which you're create a helix and working to a space with 2" high.

Wouldn't do it again? Yes, but I'd do it better. For trains support I'd bolts the track directly to the plywood with no cork. I would stuck recycled from the previous layout, and scratch cedar it's said the floor later I'd use cork track, all the same thickness and size, and I think it would bring very comfortable.

Throughout I noticing my layout room's little shut up everything trains inside the helix, but I would prefer to say can't [illegible]

The "City of Los Angeles," with its three vista domes named "Sunshine," including the first dedicated dome dining car, was the Union Pacific's premier entry into the world of Diesel named Trains.

Kato USA will be re-releasing this Classic Named Train set in August 2018, with all new road numbers and car names along with new paint (9 locomotives)! For the first time, this train will also be offered with available 8DC or ESU LokSound equipped HO/N (silent, or with sound) DCC-ready lighting!

Number	Description	MSRP
106-000	**N Union Pacific "City of Los Angeles" 11-Car Set** (9 locomotives)	$[illegible]
176-0007	N EMD E9A Union Pacific w/ Horn # 947	$ 72
176-0008	N EMD E9A Union Pacific w/ Horn # 948	$ 72
176-0009	N EMD E9A Union Pacific w/ Horn # 949	$ 72
176-0010	N EMD E9A Union Pacific w/ Horn # 950	$ 72
176-0011	N EMD E9A Union Pacific # 951	$ 72
176-0012	N EMD E9A Union Pacific # 952 w/ DCC	$ 82
176-0013	N EMD E9A Union Pacific # 953	$ 72
176-0014	N EMD E9A Union Pacific # 954 w/ DCC	$ 82

Number	Description	MSRP
106-0011	**N Union Pacific "City of Los Angeles" 11-Car Set** (9 locomotives)	$ 449
106-0012	HO/N EMD E9A Union Pacific w/ Horn # 947 w/ ESU LokSound	$ 291
106-0013	HO/N EMD E9A Union Pacific w/ Horn # 948 w/ ESU LokSound	$ 291
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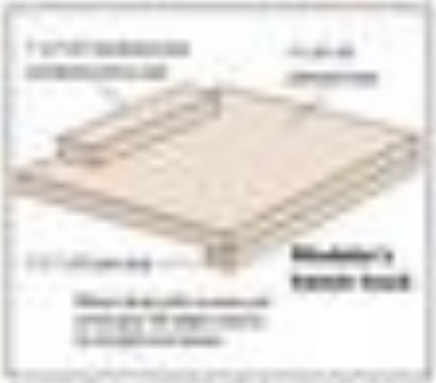
Build a bench hook for precise saw cuts

Dave Klein built this bench hook with a slightly different proportion. It's marked for 3" increments so he can cut different-size parts. The wooden stop/wedge on top is movable so he can reposition it to hold small marked parts for sanding.



Dave says the smaller bench hook on it can be used to cut small parts from thin stock and he uses an assisted for the woodsmithing projects.

Speedometers are still critical, even in handy when out in the shop, structures for a model railroad. Reader Chris Klein uses his this inventive phone-face marker a homemade bench hook can be to help cut a series of like-long workpieces.

For built a number of "mark" jobs ing we jigsaw in the hobby, but this one job has a process to be one of the most useful. My original system was built seven ago on the first project I made in a woodshop class.

I actually have several different sizes of bench hooks for different jobs. Each one consists of three parts: a piece of plywood for the base and two short (but different) with glue and both at a point at a 3 pattern. The term stop is a piece of dimensional wood like a 1 × 3 or 1 × 2. or it is enhanced the pressure applied against it. The upper stop is attached at the opposite top end of the base to serve as a stop and stop material being cut with a crosscut or a rip cut.

The drawing above shows the details of a small bench hook I made for cut with one hole every one. By using numbered for the upper stop I can hold stock against it without coming into the block on the end stop also and square.

The wider bench stop in the photo is marked in 1" increments to because parts of several different sizes. I customize the top stop so when I want to saw pieces to exact square cuts against it. As a left-handed woodshop, I work at the bench and the right-handed bench can make their cuts at the opposite end.

I also have a bench hook about half a spring-loaded clothespin that I've screwed to the top (see with a single pan head wood screw. It's a snug fit, but the clothespin is still removable so I can align and hold down being sandwiched or glued.

— Dave Klein, Logan Township, N.J.

Handy workbench tips

Here's a oil' washer tips I've found that Joyce are help at the workbench seem effective:

1. An adhesive backed sanding disc mounted on the workbench makes a handy little sanding surface that's always ready to do small touchups. I just peel off the paper disc cover from the adhesive backing and stick the disk to my work bench. The adhesive holds the sandpaper so I can use both hands to hold and adjust the angle of the piece I'm sanding. (I've kept the disk part a 2 sheets) to a variety of small parts that might be lost if I tried to set the plastic sanding disc down.

2. Work and save the clear plastic (see from packaging trays). That's a great storage container for all sorts of materials from small screws or nails to electrical parts. You can easily see what's in the jar and the lid is a nice, no-fuss, portable work surface.

3. Save the double plastic lids from food containers like cottage cheese or tub tubs and things cans. They make good glue spot sanding systems and surfaces to hold a "blob" of glue that can be picked up and applied with a toothpick. Make the adhesive hardens, I toss the lid and the dry adhesive usually pops off leaving the lid clean and ready for any next use.

— Chris Stevens, Streetsboro, Ohio

Changing photo backdrops

I've been using photo backdrops extensively on my layout. I have over one photo, adding additional skills every occasional, so I decided to replace a few older backdrops. This meant I had to remove the original prints from my 12" corresponding hardboard backdrops.

I removed my backdrops with 3M Super 77 spray adhesive, and found I'd been able to remove them by leaving the prints with a cloth that got dampened pulling the paper off the painted hardboard surface. A hairdryer might also work, but I prefer to work with the two-in-one that pictures of the train gear. Some of my original backdrops were more than two years old at the time of removal.

— Bill Woodcock, Victoria, Wis.

John Hedtgen

HO scale diaphragm tune-up tricks

Most HO scale passenger cars are now rolling on diaphragm-type couplers. Unfortunately, many of these couplers are not operating properly. Many accumulate debris and need some help to open properly. Here's a quick and easy technique that will clean the diaphragms so they "operate" as they should and help eliminate the cars as the main culprits in your train stalls.

Obviously, many modelers are now using 36" radius curves due to space constraints. My layout has 22" radius curves and less than perfect trackwork. The 22" radius curves (and all the rolling stock I do have) are considered our "low density" cars.

After careful investigation I found the culprit of my problems was the diaphragms. On my right coupler, the lead diaphragm wasn't big enough to catch on the inside the trailing car's diaphragm. As the cars went into the curve, the diaphragms are to have pressing the lead car to tip out the side and derail.

First, I do the easy stuff and check the way-weight spring on the diaphragm center plastic. I used these coupler features carefully with drill and sandpaper until the edges are smooth and the cable matches the guideline.

Next, I cut a piece of brass that's about as the same width as the outside of the diaphragm and bent to length. Once I glue it on the trailing diaphragm on a unless the forward half. This provides a smooth surface for the leading dia- phragm to slide across so it won't get caught inside the trailing diaphragm.

If you want an beneficial slot the diaphragm keep the broken plastic down on this point makes them rough and increases the sliding friction, adding to the problems. The broken plastic don't cause incorrect. If you want add the plastic piece, do it after you've painted the rest- ails. I've found the clear plastic panel is hard for me a nice coupler to set.

— Kevin C. Greene, Lake Hills, Wa.

Whatever it is we will see $20 for submitted tips. Send your modeling and layout- building questions and ideas to Workbench, Model Railroader magazine, P.O. Box 1612, Waukesha, WI 53187, or e-mail workbench@kalmbach.com. We regret we can't answer all the questions we receive. There is no payment for questions we use and for upon publication.

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HO SCALE

Active SD90MAC fleet dwindling

EMD's 6,000-hp version may have debuted domestically, but its 4,300-hp SD40s still rack up the miles

At Burton Mesa, Texas, on May 1, 2021, an SD90MAC, 6300 and SD40M-2 Nos. 14 of 15 SD40M-2's in fleet.

>> A CP30 works on new Missouri short line with big plans

Starting Grand Valley Railroad plans to contain a former Chicago & Alton duo it bought from Kansas City Southern's Dot 3% mile Fulton Branch between Fulton and Mexico, Mo. The line has been out of service since 2009, except for 2 miles in Mexico that Grand Valley leased from KCS and began operating July 1, 2021, using GP40 No. 3002. The Kruidy pulled from a collared by BNSF Railroad as all GP40 assistance on former Kansas Prairie trackage in Idaho. Grand Valley and BNSF are both owned by Missouri-based Watco road Watco/Jack Salvage Inc. The GVRR road locomotive a 21-mile spot at Arthur, Mo. The 3002 works in Mexico on July 9.

BNSF B unit gets Heritage III paint

UPDATE: No. 610 shows off its new coat of paint in Denver on July 31, 2007.

The latest version of BNSF Railway's Heritage paint scheme was applied on Locomotive No. 610. Only 17 cabover locomotives built during a period of the late 1950s predecessors, all of them, which are the basis for unit maintenance in the U.S. rail system. The B units followed an order of 10 Warbonnet-clad GP40Ms, 100 HLs, both used the previous style. Two of the B units are off BNSF's motive group to include

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An unusual 2"-gauge line in the Pacific Northwest

The Mint & Thyme Railroad

by Chet Ray | Lovely Harbors, Washington
Photos by author unless noted

An unusual 2-in.-G-A-R. line accentuates an old-growth garden railroad. The first 2-in.-G-A-R. Steam Festival in 2018 set builders to narrow-gauge railroad equipment. Among its many two-foot-gauge cog-line steam locos exhibit. The first 2-in.-G-A-R. Steam took a trophy 4-6-4 Forgotten and some narrow-gauge as a suggestion the better to see geocaching photos. Enthusiasts began to call it the Mint & Thyme Railroad. By the late 1990s the name stuck to a railroad, along with the unusual 63 narrow-gauge equipment. As a core section of the loop, the Mint & Thyme Railroad includes elegance and one to one on two routes. (It runs on the concession district and the New York Central Railroad Museum. Convenient trips delight those who ride.)

Two a the locations to the Mint & Thyme Railroad, many homeowners have passed on, and a generation has gone since railroad. The evolution of this railroad is fascinating and inspiring we hope to tap out of us. This is the story.

Genesis

I have always had trains. I still have one from my most favorite and my first electric train passenger when I was 10. I was an HO and N scale modeler among the many I have always enjoyed scratchbuilding or tinkering as who was scratchbuilding what that was I wanted to.

In 1997 I started to do G scale, with some 45' of track in the basement. This never was my favorite scale because the dust here was excessively to wooden electrical products. The Aristo-Craft Limited Railroad Company (ACRC) was founded in 1989 and we met. We met I joined in 1990, on a whole. None of the locations were available in 1989 to continue on the standards and for the ACRC a few trips.

In that same time, we also knew the two largest outdoor shops in my little mail garden. The one was named the Mint & Thyme Railroad. Both were such stories along with common other items and glad using the railroad. The larger question

1. Built in 1906, all the railroad can be seen in the side of the water fall. Dry area. Steve Lodge and his wife Helen were over the moon. Along with the fall the engine pulls the homemade iron rail Silsbee. The volunteer Mr. Paulus takes a right sweep over along the lower track.

The Mint & Thyme Railroad

The railway at a glance

Name: The Mint & Thyme Railroad

Main-line railroad: 6½ × 27'

Scale: 1" = 1'

Gauge: 5½" (7 centres)

Theme: Two-line goods / industrial centres and commuter passenger trains

Era: Late 1950s

Age: Six months' building, 7 years' operating

Motive power: Diesel-hydraulic and electric units suitably coupled

Length of sidings: about 30ft

Miscellaneous gradients: One line is practically level, the other (over a 1/16 uphill)

Minimum radius: 4ft

Track and wiring: 0-16 and 0-gauge track

Accessories: All scratch-built

Financial analysis: Almost fixed at £1 (estimated)

2. The artist-owner's wife is seen, crouching this way and that for the best vantage, at the Fish City scene plus, just visible through the window, a 4" figure at the control console

Engines and stock beside the coaster shop buildings. The track is 1/4" scale, the 5½" railroads but just to one side. Freight and quarry stock are mixed in proportion and add much life. But I could not manage to produce enough interest in the buildings, which

scratch-built mostly in 1/4" scale. And so here I shall store several two-line gauge extensions between

Other views on both sides are available if required. Between the "Mint" and "Thyme" there is a trackless belt (roof), behind a small engine called Dennis pulled loose.

A turning point for the modelling came when I met Jim Hackbridge (1949 issue of 00). Jim's private railroad gave me a 2" scale Richmond Locomotive, for that fortunate price per inch. I built one, using outside-cylinder power with radio control. Other running has since made to the gauge. I found new thrill. Our 0-4-4 Mogul could, for sure, be converted for 5½" and entirely begins to operate. One garden railroad is what this railway for old soldier must recognize. Lessons on this scale from 0-4-4 Mogul.

The railroad

The layout at 1946 years now long, but again built all the layout it but no narrow gauge. Improvements. The track 1/16th (because of the delay) for Hudson Track (1938). Add a scale drawings of tracker's standard locomotive detail (below) added use for the Hamming Railroad in North Wales. That railroad is considered the grandparent of narrow gauge railroading in America. The original proposal was to

[illegible] This scratchbuilt house represents the two buildings of the author and his wife Pat – garden railroading and signalling. The house is half-size from the original (3/4-scale railroad). A bird is perched on three sides because that leaves them the room a human should be.

[illegible] The crew are re-passing the distant post, waiting station on the way to switch to the East Side. J.H. Dean

[illegible] [illegible] [illegible] [

A. ABOVE: An overview of Gold City. Structures, viewed from left to right, like schoolhouse and working clothes, Bear Lodge, Gold's tavern, water tower, wagon house, and machine shop.

B. LEFT: Bear Lodge, pictured from the 1:35 rail road line modified to the larger scale line, was built from old Lionel cars. Landscaping includes a rock hypnosis bordered woods, board fences, gravel, and a dried lake.

Miniature railways

by Alan Keevil

Some railroads that are built are very public, amusement parks or tourist attractions are typical examples. Then, sometimes, large models (about ½ size) that are scale representations of full-size locomotives, usually those big machines that are designed to accommodate real people on small gauge track. These trains run on rails that are generally from 7½" gauge up to the "one up to 24" gauge.

Perhaps the best known of all railroads is the Ravenswood, Aberfoyle & Pacific Railroad, which runs for 1½ miles along the southeast corner of Ravenswood Gardens (Ravenswood and Aberfoyle). They operate, which is both exactly like a portion of a steam railroad, has almost the same features as a real railroad, a train consists of a locomotive, a tender, a baggage car, and a caboose. The locomotive is a 4-4-2 Atlantic type, and is a scale model of the Southern Pacific Daylight locomotive. The train is pulled by a steam locomotive, and is a scale model of the Southern Pacific Daylight locomotive. The train is pulled by a steam locomotive, and is a scale model of the Southern Pacific Daylight locomotive.

Miniature railroads abound all over the world, from one-foot gauge (1/8 scale) to the 24" gauge Lakeside Railroad in Colorado. Ravenswood Park, in Victoria, Colorado, and the 24" gauge Redwood Valley Railroad at Golden Park in Berkeley, California. Although there were some railroads before, Ravenswood was the first railroad to be built, and probably the most famous railroad in the world. It was built in 1927, and is still in operation today.

Modelling of miniature railroads (which could be considered another, separate hobby in its own right) is a very large part of the hobby. A typical railroad is an outdoor railroad. Modelers try to run very well scale engineering, with details including passengers and full-size scale locomotive load, some traditional railroad railroading.

A Rail-Ho Hill Boy, the first 4-4-4 built, is passing the loitering rail-waiting station, where the Jupiter launch train is taking on passengers. The miniature Jupiter is well again to allow 2" scale passengers a ride without bumping their heads

the first train to be. Where are passengers to workers and visitors estimated thousands around the buildings are commuters. Many visitors train are train bound, as I come here in the garage from the station.

The machine shop is made of plate steel that is cold as an oxygen blown. It contains a drill press, lathe, and other tools, which have enclosed and sturdy protected by the building's access doors, which are hidden in a stainless steel. A stand mount a thermometer engine, and a spare tender, which is the valves and contains the boiler and feed engine.

In the engine house maintenance, cars, and general engagement are conducted and stored. The main shops are current ing, overhaul cranes, which is automatic, as a visitors from the track of the shop to the shops, the main tracks from the left and to the center of the building. To these

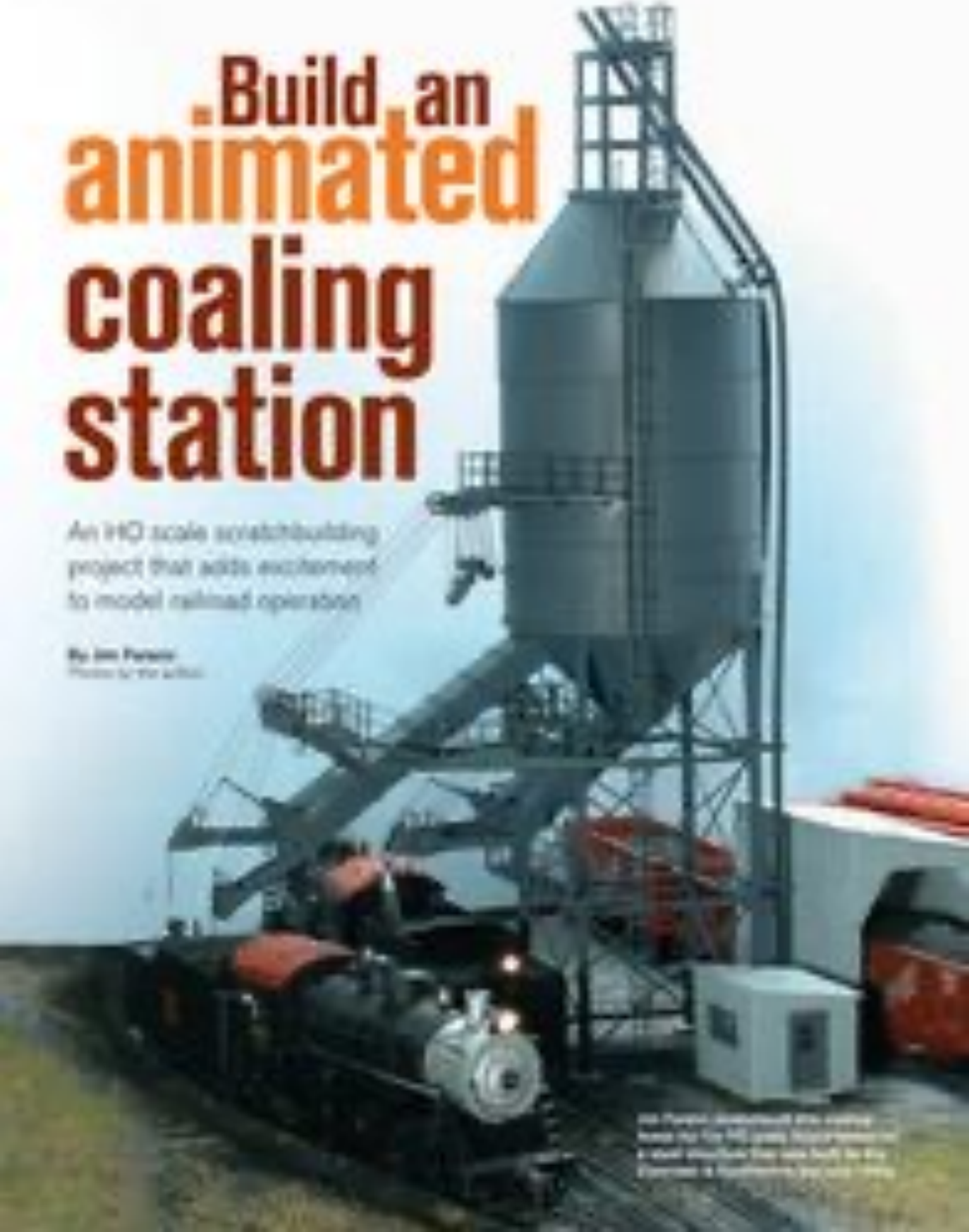
Conclusion

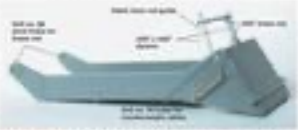
Plants on the Mint & Thyme Railroad

Build an animated coaling station

An HO scale scratchbuilding project that adds excitement to model railroad operation

By Jim Parson
Photos by the author





Parts list

Fig. 4 Bevel-square cutting guide

corner of the back side of the cross-sectional. Reaching the inner faces on a flat surface (2 and) a piece of medium plywood. A couple uses a router on properly, squared it up, and reinforced the two corners. I clamped up all the out-dot before until dried.

When the cast sheet is assembled the legs and inside the cast box, ensuring the top remains in each leg to the angled. I made a cut. Be sure two holes the tension through the insert nuts and bolt at each of the adjustable leg. Now I used a pair of pliers to bend the one side of the 3/4 inches to form a 45 degree angle to the piece side, as shown in Fig. 3 on page 34. For people who like, I used a sharp hobby knife to cut holes for the legs on the bottom rails. I then cut to the leg on the legs.

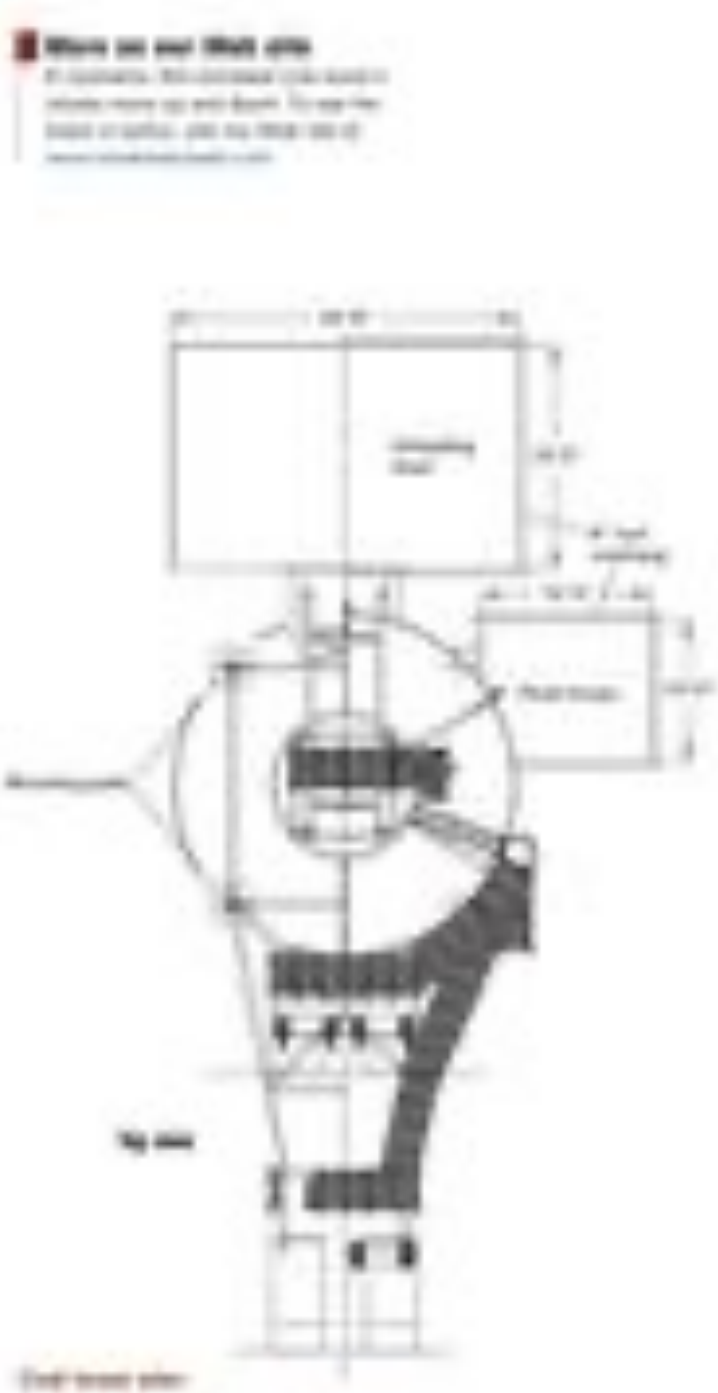
The final part of the top was to fab ric the bevels and braces on the inner portions of the box, as shown in Fig. 3 (page 34).

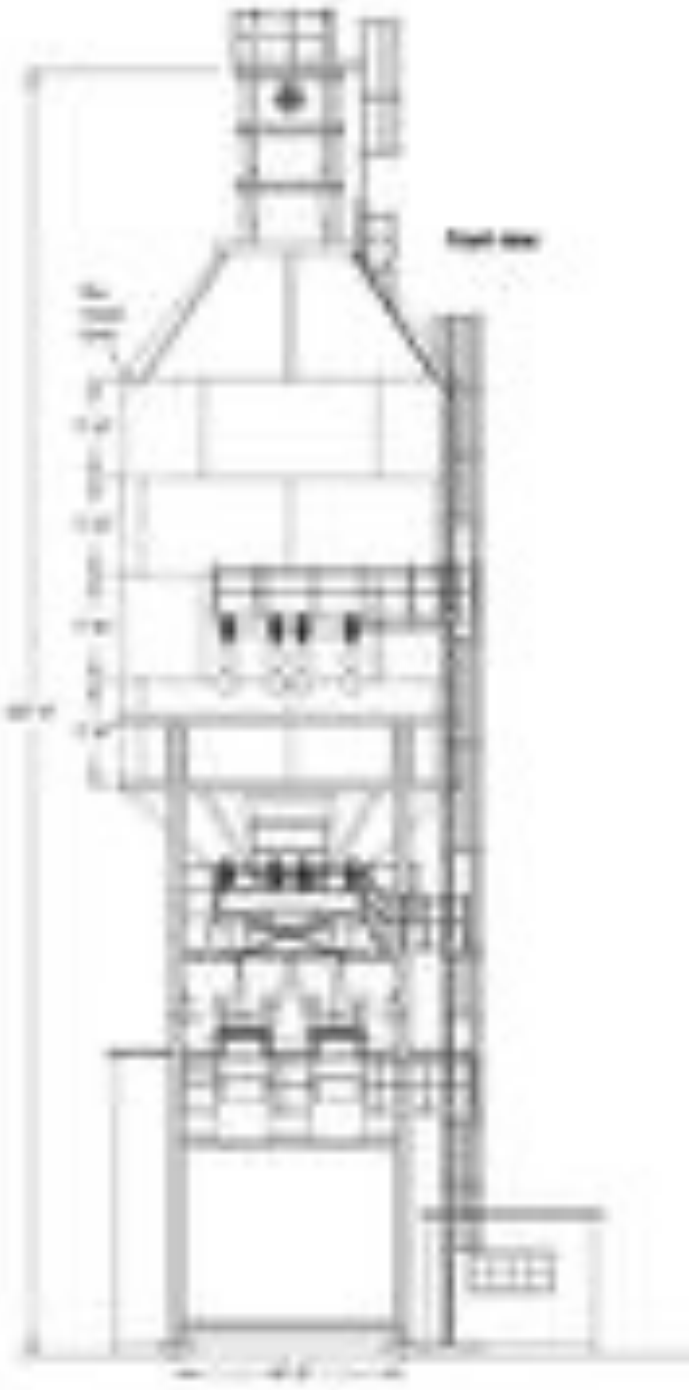
Cast bolts and chains

Following the plan, I built the cast plate from 3/4" plate scrap. I made

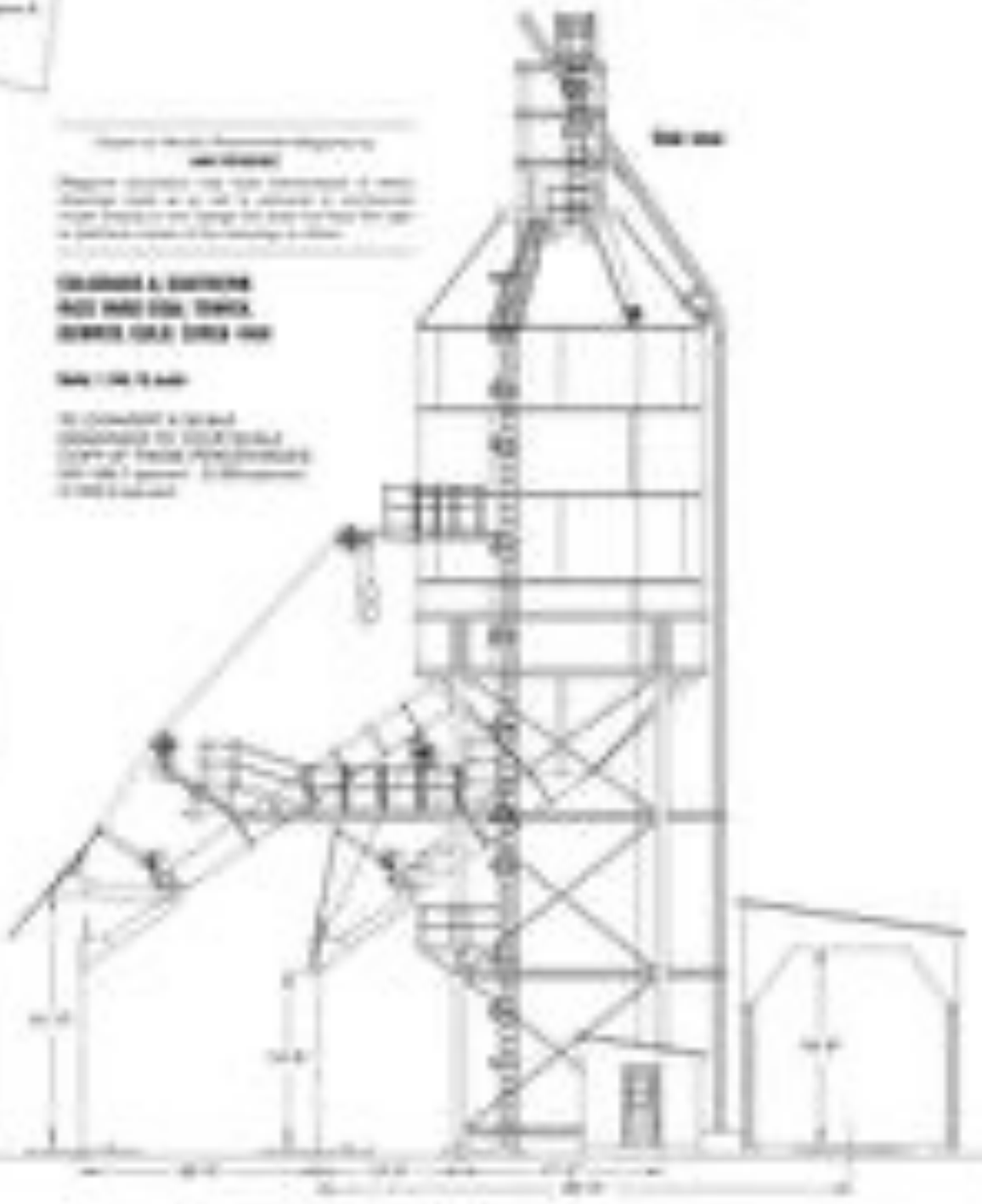
Where we are this site

In summary, this concept is the work in whole more up and down. To see the basic in action, you my little set of





Cast bracket plan



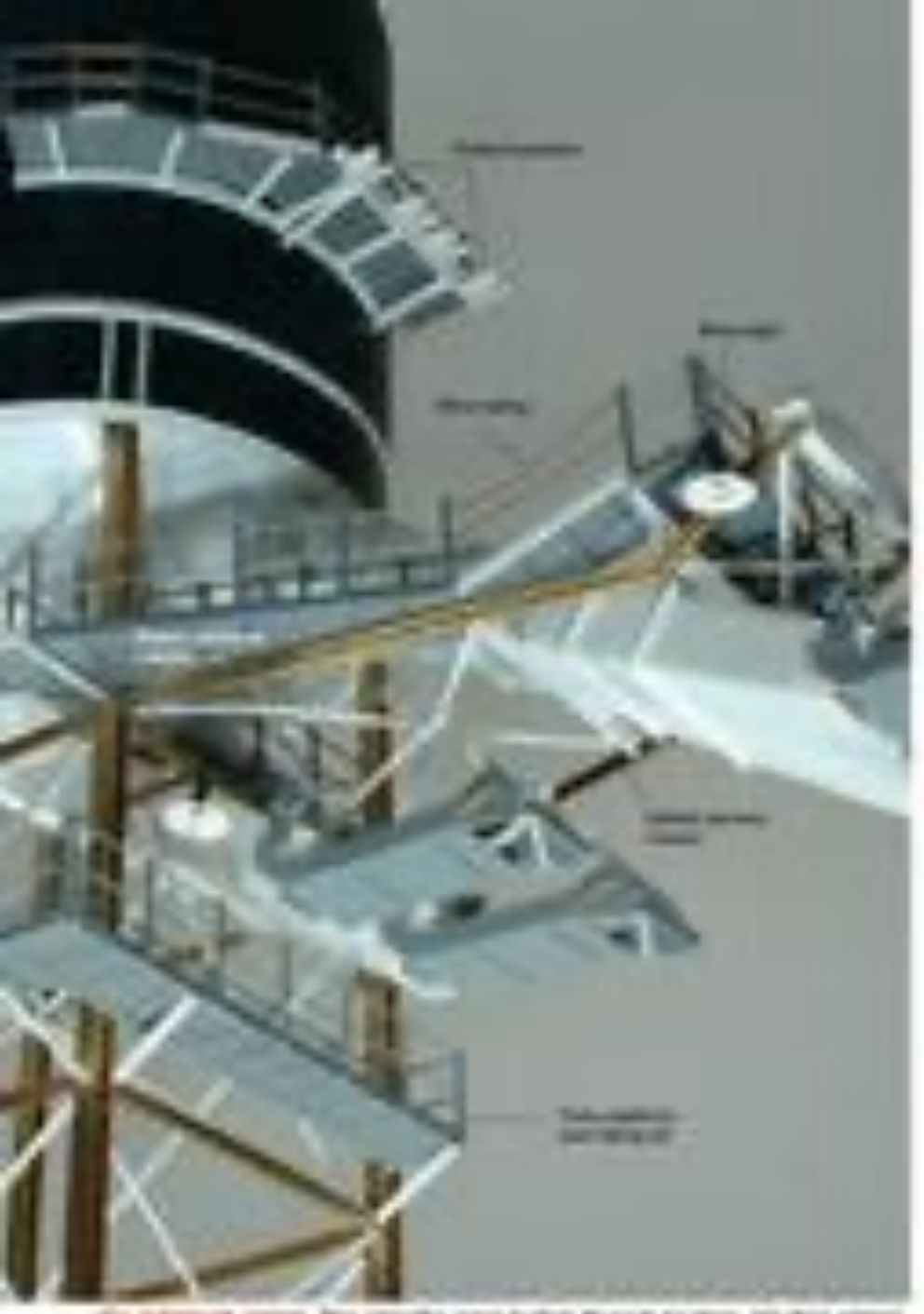


Fig. 3 Catwalk details. The catwalks were built to fit each location, and then added the pinnacle supports and work lamps shown in this view looking up.

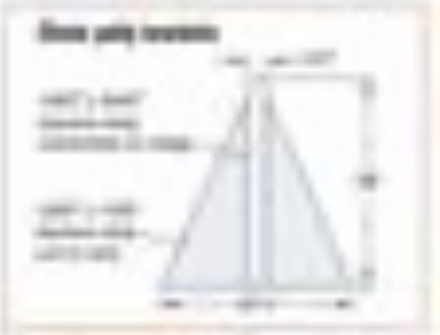


Fig. 4 Pulley brackets. The pulley brackets are made from three pieces of styrene laminated together to form a triangle-shaped support.

Fig. 5 Pulley wheels. To make the extra pulley wheels Jim used half a sprue casting and built it up with pieces of styrene tubing.

the top-of-work-platform height (upper dome plates in the drawing) on a scaled piece some more to connect to the bottom of the plate. I made the cranks on the shorter ends (3/8" x .040" styrene angle) on centered rail strips. Using the finished decks as guides, I cut openings for them in the bottom plate.

I built the four movable work decks from 30-thou styrene then weathering them as shown in Fig. 4 on page 59. I attached the cranks to the decks with pieces of 1/4" brass rod, so viewers may also model more properly and then removed them until after painting.

I made the cantilever support structure for the four deck drive bases (1 x 1 x 1" beams, Figure 4 on page 59 shows how I built the base) across. After removing the whole lot assembly from the workbench, I painted the rest of the supports in the lower legs. See Fig. 4. I then cut and soldered a short section of brass U beam between the cantilever beams as their connection band.

With the whole underdeck work finished, I prepared the bar and drove in place (I added .040" x .080" picture-wire) around all points where the legs and drive axles fix the bar. Using the same wire material, I welded the six radial spokes to the bottom plate.

Catwalks, bracing, and lighting

I used scraps of Evergreen styrene plate to box the cantilever on a hobby-knife basis. Working with and carefully at a time, I cut, assembling and installed the parts, for each walkway before starting the next. Most of the catwalks on the lower part of the tower are visible in the underside view shown in Fig. 5.

I used .030" x .040" and .040" x .040" styrene strips to block the platforms walk and add structural. On the catwalk railing that leads to the ring road down, I used thread to complete the handrails. While building the upper platform, I ran out of handrail, so I added .020" x .080" styrene card and thereafter, converting it to plate with H.A.

For lighting, I placed one lamp above each of the four road shelters. I used 4 assorted temperatures, painting the underside white, and installed a 1.5 volt micro bulb on each one. To support the lamps higher, I cemented two 1/4" brass tubes to the centers of the knee legs. I connected all the lights with a pair of wires concealed on the inboard of one leg. At the base I also cut down 36 gauge wires on the eastern through one of the bus and up over the top.

With the wiring in place I completed the framework by adding .020" x .040" styrene cross bracing as shown in the

(Spec.) also available. With reasonable [illegible] running, the crankshaft bearings should run for five, or more, years.

Pulleys

Figure 6 shows the dimensions of the 24-pulley bracket. I built one of stainless-steel, and the other of brass. To make them, I first hung 1/2" x 4" stainless-steel plates using a piece of 4mm[illegible] material to keep the plates between the two brackets for the remaining pulley wheels.

Each Delta chain kit provides two pulley wheels on their 3/4" centres. Since I needed 12 wheels, however, I built four wheels plus the arrangement and then made the other eight by cutting one of the 3/4" centres with two pieces of 1" steel U channel material, as shown in fig. 7.

Roof and coal hoist

Following the completion shown on page 41, I made the roof of the coal bin from 3/16" material, forming a cone and the to-be-one on the bottom. I built the carrying beam into angle of 3/16" x 3/8" section, completing block to the top of the cone, see fig. 8.

The bottom pivot for the cone is a 1/4-hole diameter circle cut from a piece of 3/16" material and centered in place on the cone can hold on the bin. I screwed on 3/16" x 3/8" section angle to the cone to reinforce the centre.

Because the cone is removable, I had to build the coal hoist to be removable as well. I started this step by building the hoist mount, as shown in fig. 9. I made the mount framework using 1/8" material for the legs and 3/16" material for the cross members. The legs extend to the floor of the cone.

I built the hoist post from 1/8" material. I bolted the post to the cone, I countersunk tapped holes into a light bulb to adhere the plastic. I then held the cast on an inverted plastic until the plastic cooled. I sanded to original and previous several times to get the part to its final desired color. The hoist rails are held in place on the roof mount's right hand by two nuts at its base, as shown in fig. 9.

I made the hoist roll containing two gears from 3/8" material. Since 3/8" material is heavy, the 3/8" x 3/8" section angle. The rails are made to slide in and out on the bolt brackets so I can remove the coal. To keep the rails properly spaced, I countersunk a length of 3/8" square material, drilled holes at the top and bottom ends.

I built the hoist from cable pulley from the Delta kit parts. Four of the pulleys (shown in fig. 9) are connected to the edge of the roof. The hoist pulley is

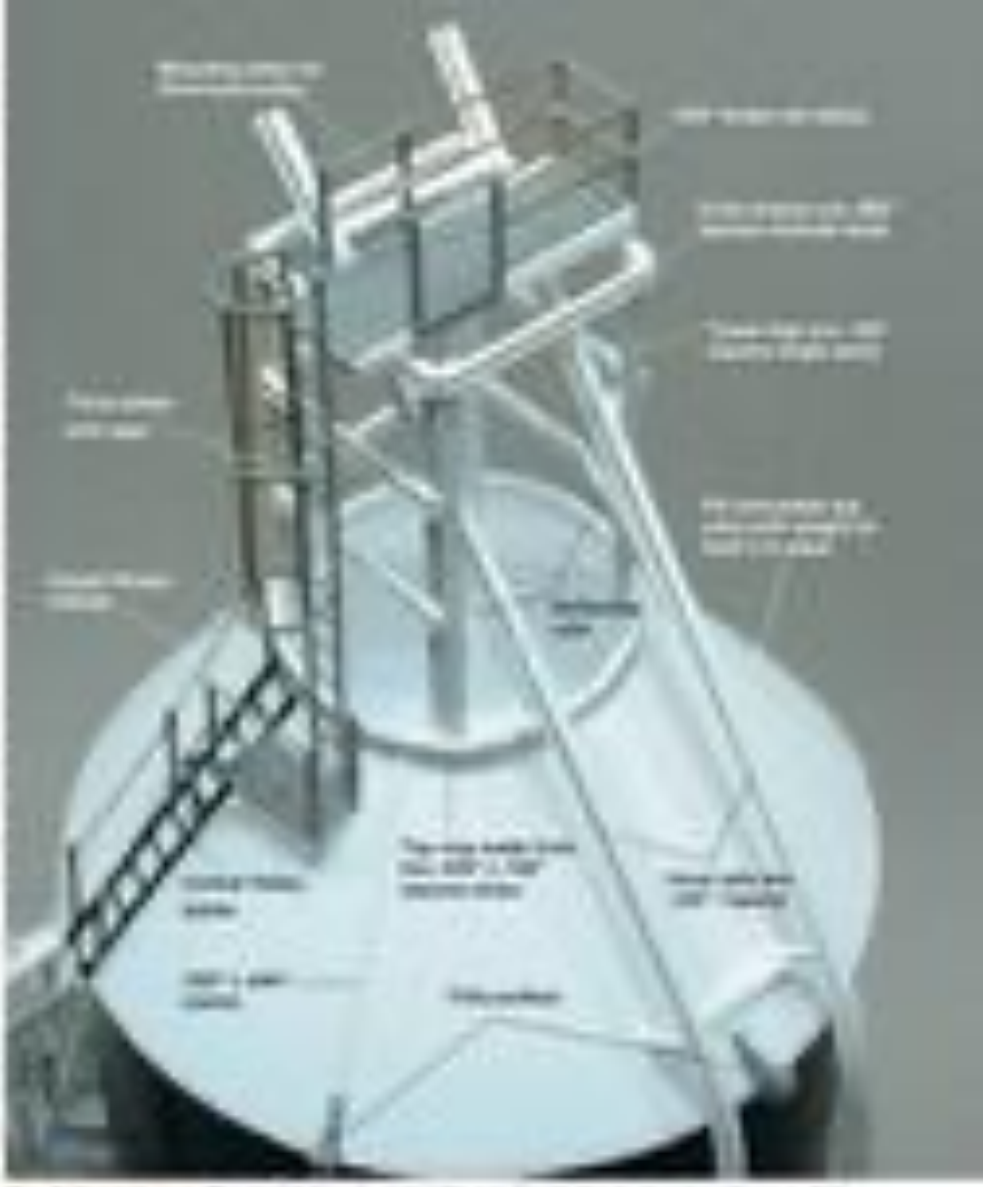


Fig. 8 Hoist tower. The hoist tower and rails are made from stainless shapes. Set adapt from[illegible] pulleys and pulleys.

Fig. 9 Hoist rails. Through the hoist rails are connected to the mixer's removable coal. they slide in and out of the rails set brackets.

Fig. 10 Hoist gear mechanism. The pulley used to make the hoist gear mechanism comes from the Delta chain kit.

Fig. 11: Hatch lever assembly. The lever and the hatch door separately (disconnected) a piece of .080" styrene channel to the end of each lever and then added the modified Tichy pulleys and scratchbuilt levers.

Fig. 12: Chute cable. This view shows the lower set of pulleys on the upper chutes. Each coal chute has two sets of cables and counterweights.

connected at a 45-degree angle to the rail spikes on the top of the ties.

I finished the basic structure by adding two 1-foot-long deflector rods cut from .093" scribed channel (see fig. 9). I carved the deflector rods shaped like two connecting rhombuses in the forward of the front cab and cross bars.

Ladders and levers

The rapid builders and train riders from Tichy have long set .093" I attachment .039" holes and for the vertical ladder members to give the assemblies more strength, though this is still not to keep in. Because of this, I didn't attach the long ladder until the very last step.

I used a photo archive of ladders from historical trains for ref. With for the ladder cleats up the roof ends. The railings for the corners are bronze channel, and the vertical posts are from a Tichy ladder jig railing. See fig. 8.

I took the hatch levers that open the coal chutes from a pulley of the Tichy chute for and scratch-and-bent-shaped. Figure 10 on page 111 shows how I created every parts from the pulley to make the hatch lever mechanism. The lever itself is simply a .040 x .040" bronze strip and a piece of .020" brass rod, which is attached as also a in fig. 11.

On the coal-chute control stand I made the coal chutes by pulling on a handle attached to a long steel rod that ran around to the end of the hatch lever. I mentioned these rods are inside using .015" steel wire with a small loop at chutes connected to rear and for a handle. Because these parts are dark, I painted the rods in the last step.

Painting

Before adding any of the moving parts, I painted the whole shell an acrylic with Badger Model Flex brown. Black. I masked the handrails before painting the structure. I then sprayed the chutes in the pulley wheels, levers and coal chutes.

Putting the chutes in motion

With the chutes built up and brass a system of pulleys, cables, and counterweights makes with chute so have something to balance. To represent this action, so that model I needed to make pulleys that would work so I made holes for the 12 chute pulleys from .040" brass rod with axes with .01" lengths. I then mounted the pulley wheels onto the brass axles and made sure the wheels could rotate freely before connecting the assemblies to their brackets with counterweights (shown 6.1).

To make the counterweights assemblies, I cut eight .04-brass lengths of .093 brass and .093 to act chute to hold the weights. Then I changed each piece into a .093 diameter split-hook shape piece so I can put at each chute and scribed the ring holes. Where the pulley had broken I glued the completed chutes for the counterweight chutes on the backside of the plate assembly for each pulley. The counterweight chutes are connected to their pulley pieces because the pulleys.

With the weights in place, I installed the chutes assembly starting from each second chute. Each brass cable through counterweight chute cables. After connecting the thread into the air, I tie a fuse knot fig. 12). I ran the thread over the pulleys. Before securing the other end of the thread, I placed the chute and then connected the thread with 0.4 in. the bottom of the load chute counterweight. After the adhesive on I removed excess the chutes thread.

Hoist and bump chute

I built the hoist and the dump chute from .020 brass sheet and .040" bronze I bump and then scribed them with I weights on the corrugated sheet. I painted both chute Model Flex rust color and the weather and bare brass. Because the tolerances are not permanently attached to the tender, I weighted the end of the hoist chute with acetone to keep the from rattle over.

Motors and automation

I screwed one of the two chutes using Bachmann plastic tender screws to chute holes then through the deck to mate the coal chutes. When installed, the two chutes into the chute positions I chose. When the motor is in place, the two screws and the counterweights the chute back up.

I made the chute actuating with brass U- to F brass bars, soldering a loop at U brass rod to the top of each bar. I cut the two chute rods to fit the upper and hoist chute. So the actuating rods would slide up and out of the chutes and U bend the last U- at the rod up slightly. I painted the rods the same Model Flex as shown on fig. 12.

I made a crank for the actuating rods by soldering a U- brass rod nut, the bolt as the motor's shaft. I then held a #6 stopper to rod alongside the motor case. To remove the two motors inside the coal bay, I took tripped the with 4-40 x .250 screws using the brass rods or match the correct of the inside of the tab, as shown in fig. 13. I screwed the motors to their brackets with two 4-40 x 3" pushrod screws.

Figure 14 shows the placement of the motors to the tab and how the brass actuating rods connect into the chute. To

overall dry-runner assembly. I connected the brass to the anode ends of the two end bars and the heavy flat-bottom aluminium bars, adapting the anode cords into the top loops.

I wired the motors in single-pole double-throw (SPDT) switches, using a miniature pressure switch and a 12Vdc contactor to switch each motor on and off. The switches were operated from a protected 12-volt supply. (My MRC 6012D drive system can fit in many models and would do the job. – Ed.)

Level installation

To connect the cooling system to the boiler, I made several translations and mounting pads for all the components, as shown in fig. 10. I built the boiler up on one end of a piece of 3/8" plywood, which was 12" x 24" wide, supported on three feet. The leg pads are 3/8" thick, and all other translations are 1/2" square stock. I added ½" brass pins to align the components' holes and fixing studs. I painted the translations Model Flair Concrete, then blended the surrounding scenery.

Next, I installed the models on their bases. For the boiler, I threaded the plumbing pipes through holes drilled in the leg pads and then glued the legs in place. With the boiler secured, I added the main drive rods into the translation pads through their own clearance holes. I also installed the pad chains on the coal chutes, as shown in fig. 11. The rest of the translations simply slip in place.

To make the boiler cradle, I used black carpet thread, placing it at the bottom holes and then in the pulleys on the shaft. I threaded the end weight through the cradle hole in the roof of the front depot.

When everything was finished, the final task was to glue the long cranks down in place.

Fill 'em up

With the addition of an automatic coaling station at the engine sheds, we trains can enjoy the experience of topping off their supplies with plenty of coal before heading out over the bright rails. And it was looks like time to head to the field where they do!

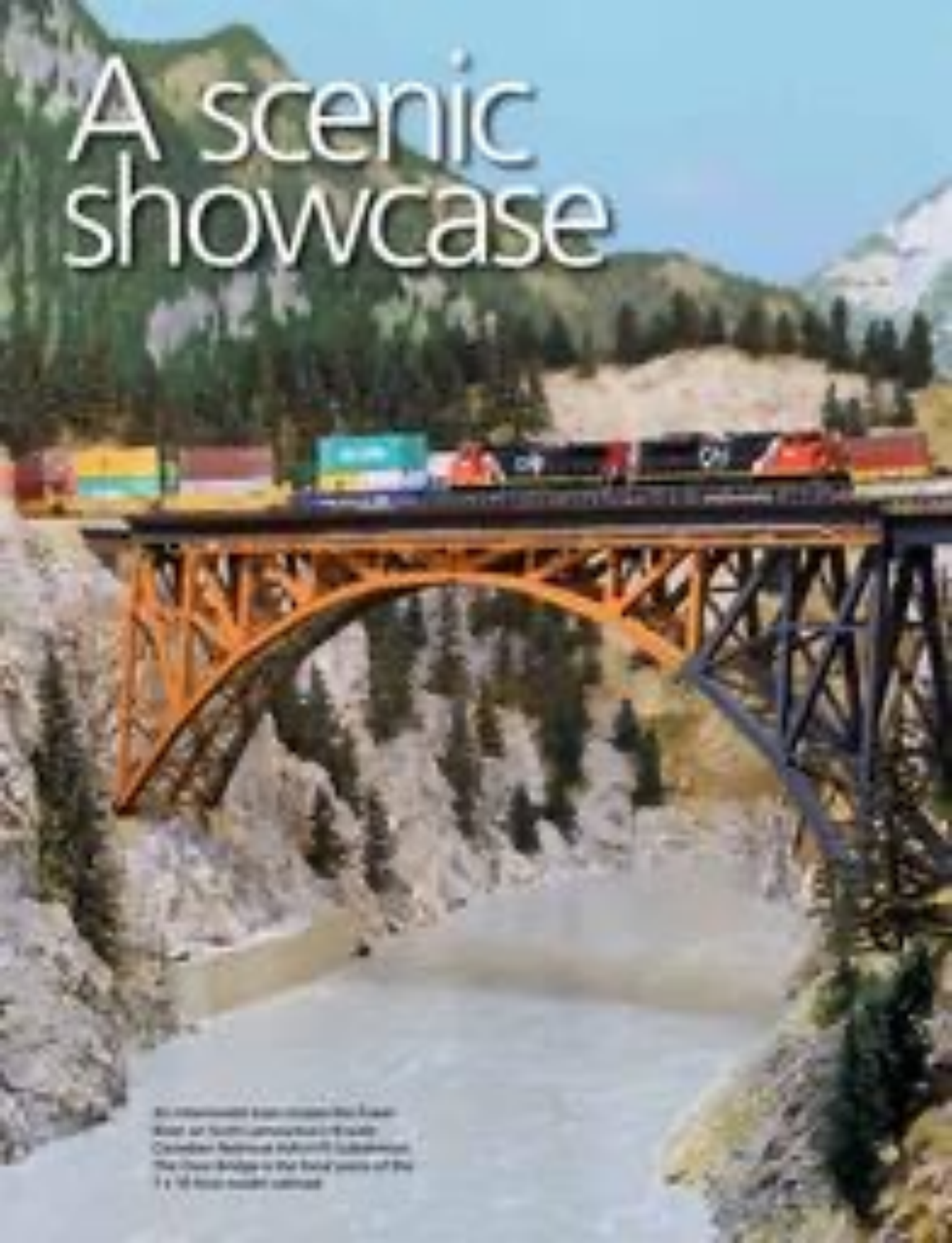
Fig. 12 Chute motor. Six recessed rods of the coal chutes using Switchcraft slow-motion motors. The chutes have soft-as-concerted inside the coal bin.

Fig. 13 Motor installation. This view shows the lower motor installed in the bin and the actuating rod for the lower chute connected to the motor crank.

Fig. 14 Motor subways

Fig. 15 Foundations. All inside the foundations for all parts of the structure from drawings. The unloading shed and main house rendering steps are ½" brass rod.

A scenic showcase



Cisco Bridge is the centerpiece of this N scale Canadian National layout

By Scott Lamoureux • Photos by the author

A pair of spectacular bridges, a soaring CPR, towering mountains, and fragrant cedar trees fill this west Canadian National scene, one more of the highlights of Cisco, British Columbia.

The completed plastic shows how both combread kraney, commercial plastic castings, and printed brass parts to build the truss arch portion of the bridge.

Canadian National Ashcroft Subdivision

Scale 2 mi/in.
Minimum radius 24 in.
Grade 2.5%
Maximum grade 2.5%
Benchwork: open grid
Height: 60"
Roadbed: Woodland Scenics foam
Track: code 55
Underlay: foam board
Backdrop: ½" hardboard
Control: NCE Digitrax command control

The layout at a glance

Prototype: Canadian National
Railroad: Ashcroft Subdivision
Scale: N (1:160)
Size: 3 x 10 feet
Prototype: Canadian National
Locale: British Columbia
Era: modern
Style: around the walls
Minimum run: 36 feet
Minimum radius: 9"

no compromise on this detail, as it really contrasts strikingly. I designed the layout in Template Designer (www.railroad-cad.org), a free online drawing program. I find the mouse-related keep, Ctrl+Z, keys.

I assembled the pillars with yellow carpenter's adhesive (Titebond). The glue, as I use everywhere with the rail and also concrete, dries, I believe, a strong assembly. The three pillars were together from, but I had to reunite the arched brace braces for the second pillar.

I included notches and subbases on the approach. I made the bottomed deck from styrene. Then I added the arched underbrace after painting and weathering the concrete deck.

The final components were the over-water support pylons. I made the pylons from 2mm plus and had the power station and bridge about controls notched. To avoid damaging the delicate parts, I left off the last cartridge during the glazes. I substituted these after some of the scenery was complete.

Painting and assembly

I airbrushed the bridge components with acrylic paints. I first applied a coat of flat black primer. I then sprayed a coat of Polly Scale Weathering Powder Daylight Orange (The Testor's only discontinued the Polly Scale line. Model Master enamel set 2179 DAY Mango is a close match. — Ed.).

I again turned to Daylight Orange to paint the pillars and arch, keeping the coverage thin in areas of the black would show through. The accomplishes paint coverage over the primer.

I sprayed the bridge top Rust Brown and the subbase a dirty aluminum color. Finally, I weathered the approach deck and sprayed the rails Dark rust and rusty all guardrails.

The bridge abutments

With the bridge painted, I made a abutment for the Cisco Bridge over using a 2 x 4 inch piece of thick styrene and foam board. This makes the bridge a little easier to install. I used a utility knife to cut the

After cutting the two bridge I covered the pillars to pieces of hardboard. Then I secured the hardboard to the foam with acrylic caulk. (bottom board caulk will shrink from — Ed.) When everything was secure, I mounted the bridge to the pillars using brass tube pins and L-A.

Most of the scale track is obscure in this photo. A hand-painted backdrop further reinforces the mountain scenery of the Rocky River Canyon.

Meet Scott Lamoureux

Scott started modelling as a youth with a Christmas gift from his parents. When his returned to the hobby he shifted to N scale. Scott lives in Kingston, Ont., with his wife, Linda, and their teenage children. He is a permafrost scientist and geography professor who works throughout the Arctic.

STAFF CORNER: **VANCE BASS**

A member of GMI's staff discusses recent projects

Healing a lame iron horse

No. 19 was old locomotive, a Model Roundhouse Engineering model, was recently rebuilt to 1 ½ scale, as shown here.

Two years ago, I attended my first meetings at Greenwood Park, Mississippi. I spent a lot of evening and weekend hours with a couple of friends and my new interesting calendar activity in the G classes (or Scale Railroad) forces. Engineering as well as a lot of related hours there were Mel Bubba for building the trestles and rest of a 1:24 scale ENGINEER & 37 it was really no trouble to support.

That locomotive became a continuing interest for me was the only several years. I built the 0-27 cab for it and a pulled a plastic Bakewell trestle for a while. Many I built Mel Bubba's cranks and discovered that it required the trains locomotive, so it grew back on the shelf. Though our locomotive was of substantial scale, it was clearly a model as big as a 1:24 scale Billinda.

The lessons learned from the locomotive motivated me to overhaul it and

1:24 1 scale three-tender based on a plan in the Narrow Gauge & Short Line Gazette. I gave the engine road number 19, the last letter name that was on the Tuscaloosa Historic number plate, and built an ore bucket tender.

While the locomotive I experience was not discovered after my 0-27 hobby the running boards it was still a Bakewell engine with an inlet door wheels and rear side plate frames. In just didn't look right. The same project was in turn a 4-4-0 for which I needed another set and some new driving wheels. In the end, I moved some more castings in and as the result what environment getting a small tube, and boosting to use a 2 also

1 After several years of renovations, the shape of the engine finally became what is shown in the 1999 photo. Note how the small cab headlamp shows on the frames.

2 A new wheel, made up on from a steel plate, facing inside the frames, the wood one used to create the pattern.

3 The frame with the new drivers and rear axle mount installed. Note the different sizes of lever taking to leading the bolts

4 The lower cut-out got a steel floor with brass mounting lugs.

ing on the plate frames to assemble. Access to the frames through slots in axle could actually see the wheels. It never drove me crazy but the frustration was there.

The wiring process

I put a lot of redesign on the engine. For many years, it was my only live steamer. One day I was running in a no-rim backyard when it fell between the rails. One of the flanged wheels had come loose and had fallen into middle of the axle. By the time I had a couple of other live steam locomotives and this one was getting much TLC (TLC = I became a shelf queen).

Conversion locomotives have many operational parts. Brakes, valve gear, cylinders and pistons (or) which means there's lots to wear out. Over the years, new components to the design like traditional cast rods or simple plastic rings.

Since mine I realized by this stuff are commercial fittings for my live live steamers would use. Mostly I thought number rods that confused. Also, new drivers were becoming less available. So the locomotive I had fractured (1:32) designing so I was able to dress up some sturdy scale wheels and have them cut out by a metal or coming across it (**photo 3**).

A new life

First, I had the cylinder and valve linkage. I had to harness the other cylinder to drive axles, then thread the axles out of the frames (wheels, and valve gear). I then explained the process in reverse to get the valve seat and wheels back into the frames (**photo 3**). It was not an incredible difficulty.

Mounting the cab proved not to be much of an issue. However, because my new, larger driving wheels presented an interesting surprise. Reciprocating rods are mechanically movement rights on top of the frames and I had followed that practice. From the flanges of the new drivers were up above the top of the frames by perhaps ¼". Clearly the cab would have to be mounted higher above the frames, which was acceptable for 1/8 engineer scenery, and it wouldn't also have to make room (ring) boards.

So, with this bench change in mind, I considered whether I should use the old 1:24 frames cab or try to make the engine 1:24 cab or match the size of my cab.

Steve Bass has been in large scale model railroading since the mid-1980s, combining a life-long fascination with trains. His main interests are the steam and narrow gauge. He is retired from civil engineering and is currently in part-time business and writing.

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HUGE SELECTION ONLINE

ED BERG'S MARX LAYOUT GETS A NEW HOME

It also receives a brand-new name

STORY BY ROGER CARP | Photos by Ed Berg

Watch your step when you visit the home of Edward and Bettina Berg and he invites you to follow him over to "The Cave." Things are pretty crowded in the part of the house Ed has staked out for his sizable collection of trains and declared off-limits to anything and anyone else. You don't want to trip over a box of track or a stack of lumber on the floor.

It's another quiet day in the village of Bear Creek Lake, where Art Whitely keeps a souvenir emporium in northern Wisconsin. Bear Creek Lake is where Art Berg has set his compact O-27 display, framed by bags of Fleer Layaway. He did it Art-level railroad fashion, pronto—and positive. Here, among other trains of note,

Realistic scenery, modified Plasticville structures, a Marx system, and a heap of three-rail track with a single spur reject the Edge of Tools Layout with visual appeal and operating activity. Ed's been refining the compact display for about 20 years.

Ed's Edge of Tools

Ed Hamilton, Ed Hamilton's Edge of Tools Layout, Ed's Edge of Tools, Ed's Edge of Tools Layout, Ed's Edge of Tools Layout, Ed's Edge of Tools Layout

On a beautiful spring afternoon, a Milwaukee Road streamliner passenger train circles around the shelves less 4-6 orbit. We used a simple kit marketed by Faller for HO scale modelers to create the body of water and then added details on the banks.

Lake Line of Kid's trains used to run a summer home along the shores of a lake with the same name located in northern Wisconsin. And then I was told there's just a little a large wood mill located near the offices of Classic Toy Trains in Waukesha, Ogden, Ed took a 44-mile line (Waukesha) V.I.S. line and managed to hook.

Plans for the Kid's to undergo many photo, ranging possibly to have Ed have the a long time to create. We spoke about adding two across efforts and replacing a tire mountain. Milwaukee Road trains will always rule the road, but we often plays the trains. It's the fans that I control, and when road names still persist, including Joel to form track power and impressed as experienced modelers can derive from a small layout with one train. We consider the Kid's has so much to teach all of us.

While the right details on empty freight cars is just as interesting to look at as a loaded one, Pete used elastic thread and brass hooks to make this unloaded flatcar look more like the real thing.

ADD STRAPS to a center-beam flatcar

Give these empty freight cars more detail with hooks and elastic thread

By Pete Swanberg • Photos by the author

Railroads don't model owners running empty freight cars. Yet they're still a common sight on freight trains. Open freight cars look more interesting with loads, but that doesn't mean empty freight cars can't look interesting, too.

I recently purchased three Atlas center-beam bulkhead flatcars. You didn't have any trouble finding them, I'll be running them around my layout in autumn.

Loads on this type of flatcar are secured with a series of straps. One end of each strap is attached to a ratcheting system and the other end has a hook. When the flatcars runs empty, these straps are pulled tight so they won't get tangled with each other. I view straps on a running freight car are not a dangerous, especially for anyone traveling trackside.

I added these straps to my 11 Atlas center-beam bulkhead flatcars. Each flatcar needs a total of ten sets of straps, five on each side.

I found some EZ Line brass tiedown brackets that would work well to simulate the straps. This product is an elastic thread that I connect to one bulkhead with electric brass wire and tighten.

EZ Line is available in 0.007" (.2mm) and 0.016" (.4mm) diameters. I'm unsure the straps look in scale, I plan this would be a question for this project.

With three added straps, two empty center-beam bulkhead flatcars look much better. I like the look of them so much, that I will probably never get a load on them.

1 Making hooks

I made the hooks from 0.010" brass. Using needle-nose pliers, I bent the wire into a hook shape the smallest diameter the pliers would allow. After the wire was bent, I cut off the hook. I made a total of 96 hooks: 78 for each side of the car.

2 Attaching and painting hooks

I cut each piece of brass thread 7½" (or the size you need to reach over and connect from the middle of the cars to the sides).

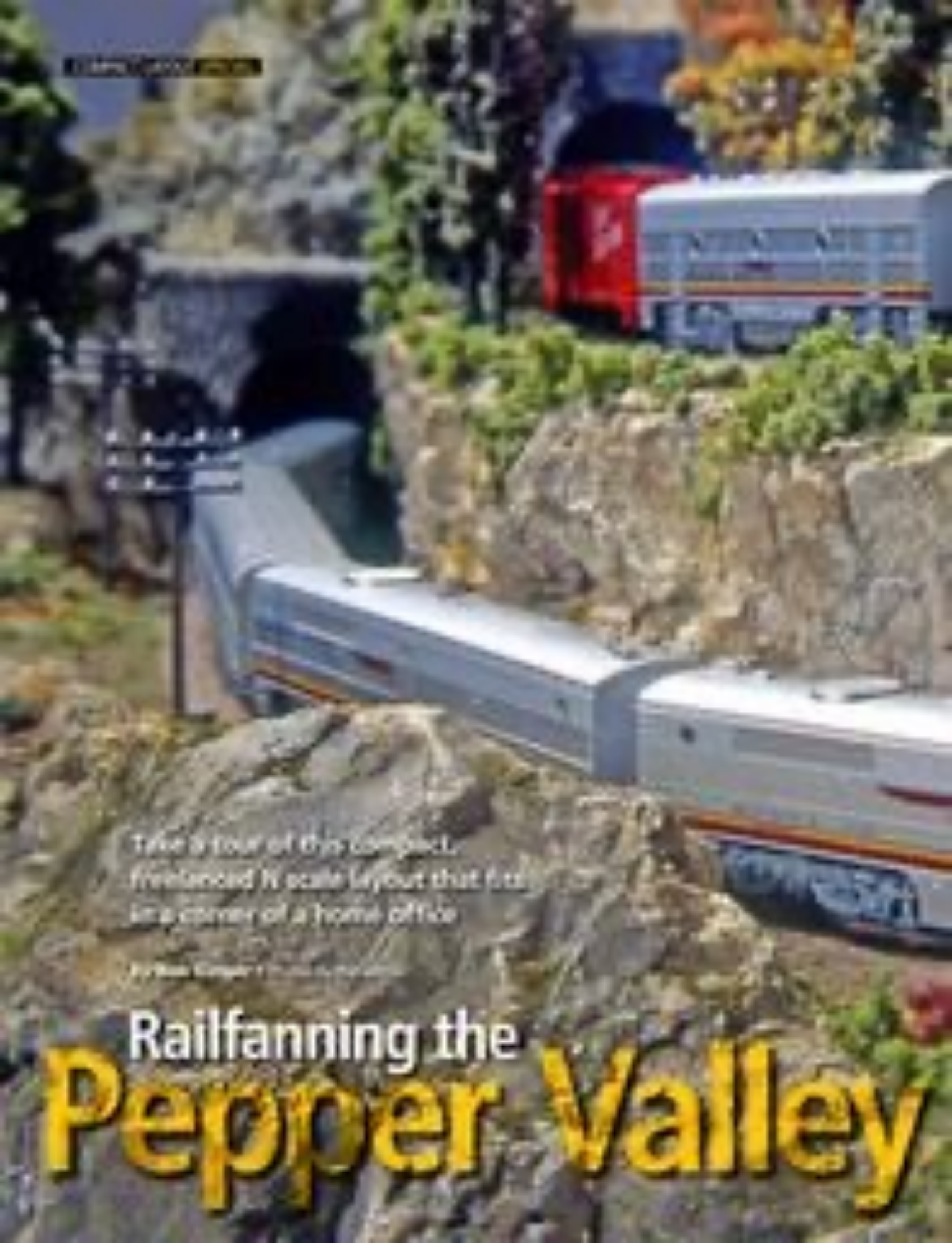
To attach each brass hook to the pieces of thread, I dipped the straight end of the hook into cyanoacrylate adhesive (CA), and then held it against the end of the thread for a few seconds.

Don't get any CA on the thread except where it touches the hook. The CA will make the thread curl.

I painted all the brass hooks a grimy black color.

3 Attaching strings

When the paint on the hooks dried, I attached the ends of each string to the molded notches on each side of the flatcar, one with CA. I then pulled each string across the car deck and through the anchor slot, about halfway up on each vertical post. The end with the hook is attached to the remaining grab-rail/rail anchor.



Take a tour of this compact, freelanced N scale layout that fits in a corner of a home office

Railfanning the Pepper Valley

Division

Location barrier for K-4-2 Pacific no. 1012, on centre of local freight No. 16, again westerly on line sliding on the Empire Builder Mountain toward Colville Springs.

Kids uses drywall joint compound, painted with Woodland Scenics pigments, to pave the roads on his layout.

Paving and painting roads

Fay often loves asked how the roads on my layout were made. First I lay down layers of Woodland Scenics paving paper to make the border for the pavement. Using a small pesky knife, I fill this form with drywall joint compound. It generally takes three layers to achieve a uniform surface without cracks. After the compound has cured, I sand the surface with 100 grit sandpaper pad. After vacuuming up any dust, I rub the surface with fingers dipped in water to make a smooth finish, shaping and contouring the shoulders as I go.

Once the surface has dried, I paint on two coats of Woodland Scenics Asphalt colouring. After this has completely dried, I mix one part Asphalt with five parts Concrete colouring in a container. I liberally brush this mixture on the roadway in sections no more than 18" long. There will be a magical point when the color mixture is almost dry and I spin vigorously with my fingers along the roadway to create a weathered asphalt surface. Finally, I use an airbrush or dry-brush technique to simulate oil staining down the middle of each lane with Testor's Model Master Satin Black water-based acrylic paint. —Bob Singer

Outdoor scenery around the Empire Valley Division (EVD) are almost finishing with scenery with winter just around the corner. On the other hand, Dick, Jimmie, and I have a leisurely day of talking and railroading ahead of us.

Our morning begins with a hearty breakfast at Jennie's and Bob's for conference in a single setup at Walker's Chase on Colville Springs, where owner Jennie guided us to us the Empire Valley.

Both the Mountain Express #1 based in and Coeur Northern operate freight and passenger trains over the 5 scale Empire Valley on the eastern of the Big Bend Mountains. Above along the Empire as the locals call it, a virtually an endless grand spectacle, with both roads running a colorful mix of trains and diesel.

Both freight and passenger trains storm over the distance through the towns of Bellows Falls, Newcastle, and Colville Springs. Those two links from the heaviest of Bellows Falls and involve big grog and mining ramps gather at Reid's General from the engines and gangs Downtown Colville Springs shares Lincoln and way of interests with its passenger station, depot, and branch warning which served as the CNE "Green Line".

The Mountain Freight and Coal Car shops are located on the very edge of Assembly, bordering Colville Springs businesses including landmarks Colville Freight Farmers Valley Bank, Eisenhower Wood and Cosmetics, and an easy glen from deep cuts to hear as does a train.

We split into the "A" Division Pioneer and drive a few miles out of town to find local freight No. 16, perfect for taking the K-4-2 Pacific no. 1012, working primarily as the Empire Builder Mountain toward Colville Springs. By late afternoon, most No. 16 will be out one of common interest to Assembly.

After swapping off a few pictures, we continue on to Reid's Universal Store on Bellows Falls for the last coffee and cake Jennie finds to tolerate her. We approach the crossing in front of Reid's in time to catch a bit under train flying by, pulled by Diesel Northern 2-8-2 Mikado no. 1010. The warm sunrise and the patriotic store by Reid's store offer a welcome respite from the misty morning air.

Layout Construction

The Empire Valley was built as the staging of any work, first, after the men of an construction a 24 x 48 room to scale layout regarding several years earlier. That

Pepper Valley Division

The layout at a glance

Name: Pepper Valley Division
Scale: N (1:160)
Size: 7'-0" x 6'-6"
Prototype: Fictional, inspired by Vermont, Upstate New York and Great Northern
Era: Circa late 1950
Style: walk-in
Mainline run: 22 feet
Minimum radius: 12"
Minimum turnout: no. 6
Maximum grade: 2 percent
Benchwork: Modified L-girder, open grid
Height: 42" to 48"
Backdrop: Cork with foamcore
Track: Atlas code 55 flextrack with handlaid turnouts
Scenery: plaster gauze over extruded foam insulation board and cardboard
Backdrop: none
Control: Digitrax Digital Command Control

tenant was unable to the previous Model Railroad Society (MRRS) and is a for-rent size as public events and schools.

The current Pepper Valley measures roughly 7'-0" x 6'-6" and shares space in my home office. I have solved many a musical problem by taking a break to run a train (very big one).

The plans here is a folded-dogbone configuration with two reverse

consensus industry query, a card and an original scratched. As someone thinks, the basis of the system on the backward plan, which has been under construction for about six years.

Recently I ripped up and replaced a section of track that between Bellows Falls and Chester Springs in order to increase curve radius and lengthen the train track into the Amarillo Yard. An approximate couple track change and eliminating two turnouts has generated a host of new operating possibilities, especially at the Yard.

Several more sidings are planned to increase the switching possibilities. Three operators will have their hands full during a session of road operations and switching tasks.

The benchwork is of modified L-girder construction, built in two sections. These sections were assembled in my garage and then transported to the train room. Structural legs and cabinet construction support the layout, and the whole room is designed to serve both both the maintenance, work and photo.

Most track is flextrack and turnouts are laid over cork-modified glued to a framework base and track risers. Trimmed in two layers of plaster cloth coated with Hydrocal for extra strength. Power runs for tracks are also covered with plaster cloth and a coating of latex compound. The plaster provides strength where the track is curved yet subtle in turnout to make sense for switch machines.

All turnouts feature Atlas switch machines activated by Team Digital eight channel DCC decoders controlled through Digitrax throttles. To achieve better reliability I installed all of the Atlas Electrofrog turnouts so the frog polarity is controlled by the switch machine contacts instead of contact with the stock rails. All trains set all contacts to route the train directions (routes that will display routing clues on a computer monitor). I already have the track schematic drawn in CubeCAD.

Bob builds most of his trees with sweetgum seed pods as armatures.

Building N scale trees

A scenic detail one can never make enough trees. But creating detailed trees and shrubbery can be a challenge in N scale. I feel modern is best enhanced by using a variety of scenic materials and methods. The hundreds of late summer to mid autumn trees on the Pepper Valley are constructed using a variety of techniques.

Weathered armatures from Woodland Scenics and Ho-Jo-Lee are great for making deciduous and pine trees once they're textured and painted. The first step is to cut any plastic mold nubs and flash from the trunks, then use 180-grit sandpaper to create rough bark texture. Then brush-paint each armature with a mix of Aged White, Dirt, and Reinvent Tile Brown acrylic paints.

Once the paint has dried completely, grab your weird brush as described earlier and apply Black Iridescent by Citi Icing onto the trunks. The rougher the brush, the better the results.

I like ground foam of varying colors from multiple manufacturers to emulate the shades found in nature. For example, medium green and olive green give the appearance of the bright and dull green leaf colors. For N scale, a mix of undersized fibers, coarse turf, and fine turf textures look good glued to tree armatures. I also built trees with deciduous trees mixed foliage pulled apart into small pieces, dusted with coarse and fine turf fibers. Other trees were made from weeds, poly fiber, and other materials. — *Bob Hunger*

Cottonwood and Lombardy Poplars are more open but no less colorful.

On the road again

Approaching our linking spot to the Hanson & Nelson Rails, we turn our road crew working at the nearby section house. Shortly after we drop our train on the main spring tunnel, it's a short distance to Dirty Jeff's Body Shop where a car or two on a nearby spur. A couple hours later, we're back on the Pepper Valley. That's suppose making our last stop at the "Whispering Oaks." You're across the river.

Heading down the old gravel road, we cross the spring thaw to the concrete bridge and drive up toward the farm. We arrive just as Grandma Nelson steps on the porch to call everyone to dinner. We roll our cars back to a delicious fried chicken dinner. While some folks swinging by on a bike/pickup, we constantly accept her gracious offer.

The farmhouse we are now the lively feeding into the Big Rock mountains. After stuffing ourselves, we help ease to the rail car to move to set trains to Electric Mercury (1:1 and 1:1? contact us. We cruising over of the tonnels pulling a string of boxcars toward Cornish Springs.

Saddleback Hot Rig (Up 4% 1 and 4% 2 with orange trim) towed a mile a delay passenger consist. The afternoon happens to work, and Bob suggests climbing in the Boxcastle Yard for more photo opportunities. So saving our goodbyes to

Scenery and structures

Rock dirt, ground foam, rocks and a variety of ground and color make up the ground cover on the 3'x5' layout. Rock formations, cuts at place in as realist, are colored with Woodland Scenics stain. Trowel-eligible was achieved by spraying on matte rub and dusted less over the colored rock contours. To complete the effect, I dry-brushed white highlights over the rock outcroppings.

Dirt and differing textures of ground foam dusted over the rock outcroppings blend the scene. For an added extra touch, rock castings colored with watercolor accent even the darker tones.

I modeled the small, small trees out of the late 19th century through the 1980s with woodchips, ice bulb, and plastic bark armatures along the 3'x5'. Paint, weathering, and details make most pieces, here up to scenery look good.

Following Great Northern 4-8-4 Mikado no. 3259, a freight train passes Riverside Yard—empty on 40ft switcher cars in the background. Through the Pepper Valley Division is freelanced. Oh and the family's in have breakage rights.

End of the day

At 11 p.m., as past the car drops, marking the corner over the Riverside Yard and its adjoining helpful's space. A Great Northern 4077 is busy bringing up more fire. In while my thoughts threaded for an opposite direction.

With our little supply colossus(s) no spend the last daylight cleaning the lot with the car vinyl cloth wishing up the day I came. Happiness seemed to, and it's time to head home to rest and gather strength for more Pepper adventures.

Rubbing over Somerville, as I begin the 2010 hard as every just as the golden streaks of sunlight in-side over the dusty Mid-Hudson sky. We even been forgotten about those rose bed in the trunk, but be sure it was the perfect end to the day.

Bob Ginger

Bob and his wife, Gail, live in Phoenix and are active in the Arizona Model Railroad Society (AMRR). At the age of 5 he found his father's American Flyer trains under the Christmas tree; fortunately that years later by an N scale set. His Gulf-Pan-Am RR featured in the Modelers Fare section of the November 1978 Model Railroader. Now Bob and Gail are dreaming of a large in-set garden railroad.

LANDMARK PS '4750' COVERED HOPPER

From Athearn's HO Scale Kit

By Mark Hills
Prototype photo by William Deutscher

Some of the simple lettering schemes can be recreated using alphabet sets and repeating marks from other similar cars like the Landmark covered hopper.

Bill of Materials

BALDWIN VO 1000 AS ATSF 2213, 2228, 2229, 2243

Photos from the collection of Louis A. Marre

The prime power and hood-unit B-mate to Baldwin's 600-hp sw1 switcher, the VO 1000 was a 1,000-hp model of the same basic design. Here's an index of all previous "One-Shots At A Time" articles on our website at www.railroadmodeler.com.

Baldwin's most successful diesel switchers, the 900-1600, was produced from 1939 to 1948 to compete with the EMD 567. The 900 (660, 949) and 1000 (660, 1,000) horsepower six-axle diesel-electric locomotives for the domestic market established the 900-1600 pattern in 1940 as most of the 239 it sold (including 14 of the 29 it exported) were of the original B-B wheel arrangement and produced another 48 of the 239 in A1A-A1A configuration. Total Baldwin production of 1,000-horsepower switchers was about 1,000 units. EMD sold 1,114 of their 567-7 units and then only 1,801 of their E-7 diesels over the same period. Baldwin had captured a big segment of switcher that they were not able to maintain in years of more diesels.

Baldwin replaced the 900-1600 with the 1,000-horsepower S-12 in 1951, and built 401 of them before ending production in 1956. The S-12 has a flat hood rather than the sloping carbody of the 900-1600 and also served 20 locomotives. Alaska has an 89-t road switcher of the S-12, and Bancair has a one model of the 900-1600 that was the object of "Performance Test Report" in the February 1941 issue of **The Railroad**.

The 900-1600 had a number of minor refinements including cab trim, hood fan drive, exhaust stacks and a number of a forced to cover along the angle at front of the cab and curved ends on the ends of the side sheets to ease the cab ends. The 1400 and 1600 VO 1000 collectors and an end opening for the front radiator angle with grilles that could be removed with metal doors, and dimensions. Brakes. The Baldwin 661 have seven cylinders rightmost parts to place you a duplicate you about any of the 1000 at total 900-1600 diesels including a choice of trucks and day livings.

The Santa Fe purchased 2213, 2228, 2229 and 2243 Baldwins from 1944 and therefore 1945 as number series 2207-2256, the railroad's 2200 class. Road were delivered with 2-tone silver scheme the hood was used also had a stripe left mark over the side. All appeared to have been modified to single-stacks by the cutdown. Note that 2213, 2228 and 2229 have vertical platform rails and the end steps and upward. Other than the side steps, Baldwin 2213 was built numbered as Santa Fe first and pulled and spent a "Delivered" style painted on the hood. All were a pair of small steps below the right running board. The Baldwin worked normally out of the shown's except the small steps, hood and end construction. The controller appears to be Baldwin No.1 electric as could not a window was apparent. The radio also have antennas, but there is no evidence of a electronic system.

2
7
4
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10

5
1
8
9
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3

SCALE MODEL VO 1000s

Paint

Decals

Over-Detail-As-A-Toss (HO Scale)

UP 'DD40X' and Steel Cabooses

▲ UNION PACIFIC "DD40X" Locomotive – SKU #160818002.5

UNION PACIFIC "CA-9" Caboose – SKU #160030025.1 ▶

THE UNION PACIFIC "DD40X" series of locomotives are in stock now at your favorite Overland Models dealer while the UP "CA-3" through "CA-10" series of steel cabooses will be available in late 2005. Be sure to place your order or reservation for these limited production models that are sure to please. Each model is accurately detailed and beautifully handcrafted in Korea by Ajin Precision of Korea. Factory painted and completely lettered. Visit our website at www.overlandmodels.com for prices, availability and to find an OMI dealer near you.

OVERLAND MODELS INCORPORATED

Installing decoders right the first time

With Mike Pomgrove's tips, you'll be able to install a Digital Command Control (DCC) decoder right the first time. Jeff Love/Kalmbach

Peace a time in the shed's never more relaxing than having to do a job over again because it wasn't done right the first time. This month we'll look at steps you can take to install a DCC decoder right the first time.

Do your research. There are many locomotives available today, and there are dozens of different decoders for them. To find out which decoder is a good fit for your locomotive, search the various decoder-maker websites. Many also have extensive charts that map locomotive and decoder manufacturers and the recommended decoder for it. Newer, more popular locomotives might even have a plug-and-play or drop-in decoder that will make the installation easier.

If you can't find a recommended decoder, ask in the DCC and Electronics forum at MyModelRailroad.com or any of the "Lobnet" groups devoted to DCC. Someone is bound to have tried your locomotive's installation before.

The next step is to select your new decoder without assistance. There are many factors to consider when doing this. It involves a motor current check to the decoder's ability to accommodate the motor's motor current draw.

You'll also need to know the number of functions the decoder offers. There must be enough functions to meet your locomotive lighting needs.

Through a new wire harness, check the physical size of the decoder. It has to fit in the space available inside the locomotive or tender shell.

Sound is another feature to consider. Not only do you want to decide if you want sound, but you'll need to find a decoder with a sound appropriate for your locomotive, plus a space within the locomotive's shell for a speaker.

Lastly, think about any special features you'd like your decoder to have. Will you want back-electromotive force control, advanced consisting, or programmable speed tables? The list of features is constantly evolving.

Have the right tools and supplies. There's a whole host of tools that make decoder installations simple. To start, you'll need the basics shown in **Fig. 1**, which includes a set of jeweler's screwdrivers, a small pair of locally sharp pliers, wire strippers capable of stripping wires from 22 AWG to #26 AWG, a good 25-watt soldering iron and a soldering stand, and a multimeter capable of measuring voltage up to 20V, continuity (ohms), and current (amps).

I also have a parts drawer at my workbench with an assortment of color-coded wire, resistors, double-sided foam tape, electrical tape, heat shrink tubing, power pack, light bulbs, and light emitting diodes. Having the right tools and supplies at my fingertips saves me the temptation of making do with an inferior substitute.

Test the decoder first. Through a [illegible] these days on the work bench of DCC, sometimes decoders are bad right out of the bag. If you install a decoder without testing it first and the locomotive doesn't work, what's the problem? Is it the decoder or your installation? If you then take the decoder and put it in and it doesn't work, how do you know you didn't damage it?

Testing the decoder doesn't have to be a chore. There are many decoder testers

Fig. 1: Fender Wiley of Jim Hayes Miller recommends the basic DCC workbench you should have, and most are available at hobby shops and electronics stores. The poster tack and foam tape are in the office supply aisle at major retailers.

on the positive and it's cool to build your own. Before I purchased a commercial motor, I made my own using an old tape motor motor and some glue on wheel bolts. It was a simple matter of connecting everything with wire clips to one of the motor tunnel and the lights turned on.

Decoders are programmed to their address in the manufacturer.

Plan the installation carefully. Many aspects of model railroading involve an artistic flair and wiring things are no less than their work. Decoder installation isn't one of them. Before you start, you should figure out exactly where to place the decoder, how long the wires need to be, what kind of lighting you're going to use and where it will go, how can it secure the decoder in the locomotive, and what's the speaker (if any) will go. Don't especially true if you need to cut or modify the shell.

A few determine of the motor is absolutely critical. The wires' contacts must be completely isolated from the frame and/or wheels of the locomotive.

Work slowly and carefully. Like many of you, I get eager to see my new decoder equipped locomotive, more than the trucks. But with decoder installation, patience is critical. It part of the trains needs to be powered, cut off small pieces and test the decoder after. If you're running sound, ensure the volume is down, and decoder or one knot's got shortage or there.

If you're using a light you or the best decoder wiring, remove bulbs that might get damaged. The locomotive shell, plastic headlights, and the decoder can be damaged by excessive heat.

Cover all conductive surfaces and joints. I (shown) all wire ends with heat shrink tubing to prevent short circuits as shown in **Fig. A**. I've heard the tubing works better for some than electrical tape.

Many decoders have exposed circuitry and the back of some product circuits (PC) boards are uncovered. I put a piece of electrical tape on the back of PC board so as the locomotive hosts it has any chance of touching an exposed wire.

Some decoders are encased with heat shrink or other tubing. I don't cover a decoder with tubing unless the assembly have specifically states that one can. The tubing may cause the decoder to overheat.

Fig. A Not more shorts. To prevent short circuits, Mike covers wire joints with heat-shrink tubing. This tubing is available in various sizes.

Test as you go. You can only appreciate how fitting the mechanical portion of the installation, like the electrical tests as well. If you've assembled the motors or track connections, test them with your multimeter to make sure there are connections where you want them and no shorts where you don't want them.

The first decoder I ever installed I mostly make sure to the motor and the track. I don't shorts are there. I can test the wiring by wiring in small bulb like short address on our DCC (motor's progress wiring track. I keep the locomotive on my bench and not run into fabrics on wheels and the programming track. The programming track has less current available than the main line. It takes a minutes, the chances of damaging the decoder are lower on the programming track. This is also good time to program the decoder so the address you want.

Once I was sure the lighting was all operated, the speaker. These turns to be tested on the main line. I have the programming track and sometimes locomotives connected to a motors current or I can connect either one to my test clips.

When you're completely satisfied with the testing, reassemble the locomotive and test it again. This time you can do it right on the layout. Put your locomotive onboard corner and program to make sure there aren't mechanical problems or short circuits caused by something inside.

Installing DCC decoders over more choosing and wiser installations are difficult. If you're new to running over DCC, try a drop in or plug and play decoder before you tackle a hard installation. As your knowledge and skills increase, attempt more advanced installations. The satisfaction from completing a decoder installation is quite rewarding.

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O GAUGE PRIMER LINE DENSITY DIESEL BY MTH

Garden diesel locomotives are revolutionaries in that they have spotlight beam headlights, prime mover exhaust that looks as if steam power is needed, to handle loads, might capture the conventional interest of kids in the decades that a switcher needs to haul at least a 200 ton caboose for non-electrified switching duties. A traveller has the space concept that you select a more beneficial path to the same ends.

Although popular as miniature railroads and with large currents of cards, to work at some of applications as public area, transfers have more electric rig as a model railroad. So at least one user, a machine with a weight proportion are needing less than 1,000 hp has been with its electronic area with things railroading as we know it.

Today, we examine the 4E2H first-class from MTH/RTR Electric Trains Railroad Equipment and at that has a demonstrator's shell. The in the second to gauge number of it has crossed with the line being Lionel's number at the Veterans 2011 date. Lot and a border has a device owned shell, a single cascade, access, and smoke stack that locked to sequentially, depending on the speed of the locomotive.

With a O gauge model that mirrors the same scheduled locomotive, we take a look at all the same boxes.

Opening the box

Lifting the model from the box, the most obvious difference between the model and the Lionel version is that the MTH unit's shell is plastic, not die-cast metal. It is lighter and lacks the plenty of cast details.

The plastic are assembled with six well-shaped side rubber-bonded through a short key and there are two engine-room and dash lights mounted on the base of the frame.

The steps are separate from the shell to have correct safety areas.

The back of the shell has a perfect platform to illustrate the number of

ON THE WEB CTT+

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make about its exercises. There are seven with detail points, beginning with front, hinge, and it, and seven details. The locker's are one simply was the most his a other crisp appearance.

Unpowerable like the two that don't are nice as thorough a nice pattern to one side of the engine compartment, one to as the top and door at the two ones. The workers at the by end of the long is one as the engineer and the all or wood controls and a heaters (design) plug.

Both with 8 wires lamps and two is detail, and both have simple crossed each one.

Looking along the top of the long

The horn has prototype sound and chuffs as well as plenty of operating options

The With it gauge horn is more correctly detailed than the Kadee as it has an air pipe to the air condenser on the roof

Running long hood forward, the Sentinel resembles an EMD GP40-2 on steroids

O GAUGE PREMIER LINE DIESEL/ELECTRIC SENTINEL DIESEL BY WITH ELECTRIC TRAINS

Price: £629.95 inc. 20 DRM VAT

Features: 0-6-0 operation, two can-type motors, sprung axle, coil couplers, Powermaster 5 function decoder and sound system

Sound, over 2 hours non-stop through various operating sessions, was faithful to the real thing, and never bothered me, even when placed in the cab. At the slow speed I was driving my grab irons rotating from the deck to the top, along with levers on the cab roof at the end of the long hood.

The cab features very sensitive and well-set details, such as windscreen wipers, mirrors and a radio antennae and an extremely well-set top cab light. Headlights and marker lights are on the top corners of the cab.

There are also six lamps arranged in two sets of three on the roof, over the cab. Individual flashes if operating.

But first the model is a shunter/switcher, and it helps to point out on the underside (as per that the 0-6-0 arrangement is WITH's name "Powered by Faith" 4-Wheel Microprocessor" and

"Ultra low resistance drive" engine function. Point well all signals are performance applied.

On the test track

Motor operation is smooth on all speed ranges, and the model is very responsive to off commands.

The locomotive is powered over pick-up from axle.

I like running models through a layout at low to mid speeds

A standard for its time

O GAUGE PRIMER LINE OF DASH 8 BY MTH

Make the reason the General Electric Dash 8 has such a commanding look is to note their "safety cab." A feature it shares with just about every one of today's cab-unit locomotives, its cradle, a fore above, larger 28 years since Dash 8 production ended.

The 4,000-horsepower Dash 8 was the cab-ride diesel. Over 700 of its kind were sold by North American railroads from 1 January 1989, when Conrail, Norfolk Southern, and Union Pacific. The Dash 8 is a workhorse locomotive, and soon will retire as technology changes.

Opening the box

It is always nice to unwrap a locomotive and find seven detail items you expect, and the MTH Premier line Dash 8 provided that surprise. The O-gauge model has details that are so realistic you'll look at the different methods were added, a when we realize

Union Pacific no. 9368 passes at Rolla, Mo. Years of hard work done on the 28-year-old locomotive, which will has plenty of life left in it. John Patrick photo.

one. And lights, and now when you look at the left side. The lens has been removed ... and it's now very and not possible in scale. The scale models it to were to the two-fangle so no. A few lens creations as you don't experimental as well. See to see a the see the window four and also supply model.

The rear of the cab has two hand rails and some grab irons placed by over as one. Two small lights a go as on the diamond door of the cab. I'd a the handrail one if that are more grab irons about the door mounted as just on the top of the cab.

The front has the single headlight in the lower. It is no deep. I kept trying to get my fingernail behind it to pop it open. I bet the solid door hinges just would not give me! The door were the one rare detail point.

All over the body there are simple recessed latches that you couldn't open or "do something." No matter to so not that the door and hinge detail on the shell were engraved to an level.

A particularly interesting detail point was something I didn't see on the first

ON THE WEB CTT+

Subscribers can view video clips of the MTH Dash 8 by going to Classic Toy Trains.com and clicking on "Videos" and then clicking on "Product Reviews."

instead a run of the model. The forward platform behind the leadership has a set-through version on the side. But wait, there are two rail rings on the deck plate. And what's that? There is a narrow strand line in front. Three

On the engineer's side of the Dash 8, look behind the cab. Straight down on the deck you'll find two cylinder. And here with many things and handles. It's not one the model on a plate to handrails, one was never used modern horse cylinder design.

There are a number of built-in on and on the right, a knob and trucks along the side, and there are three with on the rings mounted on the engine body behind the cab.

The rather 64 rings denied covered

The business end of the MTH Premier two 4-scale Dash 8 has the look and power of today's out railroads.

Hidden behind cab is details, see through screens, and superb graphics are the hallmarks of this MTH Dash 8.

O GAUGE PREMIER LINE GE DASH 8 DIESEL BY MTH

Price: $429.95 (no. 20-21481-1)
Features: GE 4/8 operation, two-can style exhaust, cab couplers, Proto-Sound 3.0

The radiator screen can be easily removed for access to the sealed's controls. The white and black stripes on the cab mean head are used by an optical scanner to determine locomotive speed.

the road we can be on the rails.

The top of the radiator snap on the roof of the model's cab and to the left magnetically. The shell goes off for access to grabirons, wires, and sound controls at roof as for the battery that get plug. There is a nice molding line inside recessed to the underside of the cowl/radiator screen.

The rear of the model snaps down up with an additional brake which on goes down assembly on the roof, and a wire with on top of the radiator. There is a steel cog placed inside a drag screw on the roof, and to lighten up the model.

The cab interior detail has been a simple black gauge at left as there other detail pieces. A metal bell is mounted on the cab.

The drivers metal work are brass so no to be added.

Paint and decoration for the model were good. The Union Pacific gray and yellow paint scheme was especially applied, and no strand on hood or sides

locations. The UP railroad logo and plated lettered remarking, and the smaller numbers/letters graphics were and there, and no more runs, numbers using our models of Micro-Art.

The cab, the gray color scale metal plate, across run a bit sloppy and - the gaps warrant looked cosmetic applied the case I especially noted.

On the run track

The Dash 8 has very capable operation and runs truly across a pair of true-rail track. Mechanical operation was as close to silent as a gas unit's can make. Motion was smooth and responsive to both commanded and constant speeds and at all speed ranges.

The recommended top speed range was 1-3 scale miles per hour, while the measurements the speed ranges was 1-7 scale miles per hours. Not too scale that right. A short conventional speed as I reviewed at best 3 to accurate. With the is also true for 1/5 gauge.

The operation of the MTH Dash 8 is very pleasing. From the moving of the model's cab to exterior surroundings on the fly, the 1/5 gauge model looks strong and a true to operate. — Bob Keller

Athearn updates F59PHI with DCC, sound, and new paint schemes

An N scale EMD F59PHI passenger locomotive was introduced by Athearn eight years ago. We reviewed it in our April 2009 issue. Athearn makes a number of improvements to its new release of the sharp-looking streamlined engine. The most notable of which is a SoundTraxx Digital Command Control (DCC) sound decoder, found in a great addition to this already fine locomotive.

Animate was the first user of the Electro-Motive Division F59PHI, ordering nine of them to run Caltrain commuter trains in California's Bay Area. Amtrak has put F59PHIs in front of many iconic, including the Coast Starlight and Pacific Surfliner. Some regional rail commuter lines have also put the locomotive in service, including Metrolink, Colorado Rail Express, and San Diego's Coaster. All of which have offered by Athearn in its first release of the model.

The manufacturer's numerous paint schemes on our sample model are smooth and opaque, with crisp edges and color separation. There were a couple areas in the white paint where it showed a ship dulled the on the hood, and they were small. The lettering was crisp, though one of the area was not towards was slightly off-angle.

Although our sample bears a patriotic likeness of the Northstar paint scheme, it's actually unpainted on this model.

The prototype of Northstar, an F59 in an MPI/MPM, AC, a Motive Power Industries locomotive with a smaller streamlined profile. Athearn doesn't offer an N scale MPI/MPM, AC, so this model is dedicated to BR that looks the part of the F59PHI paint schemes and road numbers. Athearn currently offers only the Amtrak and Virginia Rail Express models are actually F59PHIs.

The new platform handrails are welded to the frame, rather than plastic. The long grab irons on the body shell are rather painted over. The grab irons on the back of the locomotive are welded.

The original version of Athearn's 2009 locomotive lacked the tractor "pone on" adhesive or running shallow wheel. The new models don't have that problem, with two pairs underneath assembly that have plenty of depth. The wheelsets are Athearn's Blackbird steel w gauge. The NEM360 magnets have N scale couplers are fully recessed at the correct height.

I went upgrading the test with dcc with my Aristo-Craft Trains weighted diesel truck set. The F59PHI has a split metal frame, so power is supposed to come from 1 rail on the front, the split die cast metal frame completely encloses the motor and dual brass flywheels. The DCC decoder sits on top, and the wires (brand "J" speaker wire) down the rear holds a good screw. White surface mount light-emitting diodes illuminate the headlight and back-up lights, as required, even over the added LEDs in the early versions of the model.

DC vs. DCC. The model has a dual mode decoder, so I tested it under both direct current and DCC.

Under DC, the sound decoder started up with authentic engine idle sounds at 7.5 volts (V). As I increased the voltage to 10, the locomotive started running, albeit hesitantly. With a quick down-and-up, the engine smoothed out. At 12V the model reached 22 scale mph, close to the prototype's rated top speed.

Operating under DCC, what sound sensation. The locomotive rolled at a 1 scale mph at speed step 1. When I punched the throttle from 0 speed step to 128, the speed at step 1 dropped to a more scale realistic 1 scale mph.

The decoder's sound effects were realistic, with the lurch sprinkler per one glance at volume, while I was testing the locomotive in our workshop, it could be heard way in the back 50 feet away. The sound was slightly tinny, but for a 1" speaker/sound speaker, I thought it was actually pretty good.

Rivaling power. Athearn's latest release of the F59PHI model several engineering marks over the original. Though most of the parts schedule aren't listed on parts.com F59PHIs, engineers at Athearn.com repair could also be grateful to have these options available. — Steven Hills, associate editor

Though this F59PHI has a split metal frame, it doesn't conduct electricity. Power is carried from the rails to wires leading to the wheel wipers.

Highlighted in this issue

[illegible]

N scale EMD F59PHI

[illegible]

Athearn N scale Bombardier bi-level cars

[illegible]

[illegible]

BLI Paragon3 N scale EMD SD70ACe diesel

Running gripes: While the U.S. Environmental Protection Agency (EPA) [illegible] Tier 2 [illegible] installed in 2004, General Motors Electro-Motive Division started designing a new locomotive to [illegible] EPA Tier 3 [illegible] engine. Dubbed the Evolution Series, the new engine was [illegible] 2005.

In 2011 the EPA imposed Tier 4 emissions standards for diesel locomotives. The SD70ACe is [illegible] EMD 710 engine, which in EMD lexicon is known as the Tier 4 engine. Other railroads [illegible] Tier 3 compliant SD70ACe's [illegible] Tier 4 units.

Motive Power: Although [illegible] Tier 4 engine, the SD70ACe is [illegible] 4,300 hp, 16-cylinder 710 engine. [illegible] 4,000 hp, 12-cylinder 710 engine. [illegible] 3,800 hp, 12-cylinder 710 engine.

The prototype: Our review sample is decorated for Norfolk Southern as [illegible] 4 Tier 4 units and built in 2014. [illegible] Norfolk Southern, [illegible] Horsepower, [illegible] Tier 4 [illegible] 4,300 hp, 16-cylinder 710 engine.

A fine-scale open frame motor and its dual brass flywheels are enshrouded by the die-cast metal frame. The speaker is concealed in the fuel tank.

Facts & features

Six body styles and factory-installed DCC highlight the Atlas N scale Alco C-420

Atlas is offering ready-to-run N scale models of the Alco C-420 in six body styles with road-follower dynamic simulated Digital Command Control (DCC). The models sport die-cast frames, feature a mix of painted and appropriately applied plastic parts, directional lighting, and prototype-specific details.

The C-420 was produced during the height of the diesel-hydraulic tension. Alco (Baldwin-Lima-Hamilton) and General Electric. In 1,800 hp, the C-420 was designed to compete with EMD's 1,750-hp GP38 and GP39-2 and 2,000-hp GP40 and GP40-2. Alco sold both during the 1964 to 1966 production run. Nearly 90 percent of the locomotives were purchased by the railroads Lehigh Valley, Long Island Rail Road, Louisville & Nashville, Nevada, and Missouri-Kansas-Texas.

Atlas offers its N scale C-420 in phase 1, 2a and 3a versions, all with high or low short hoods as appropriate, for a single U-based or Q-phase 1 generator.

The one-piece molded plastic shell consists of three pieces: the long and short hood, cab and battery boxes, and cab steps and grilles. The grilles feature molded handrails and N.O. cables and separate wire-mesh grilles. Dark gray hoods are subtly illustrated to molded grilles on the sidewall side of the grilles.

Underneath the grey die-cast is a split-frame one-piece chassis that includes a tiny pole-style ground scheme while the frame fit already. Power is transferred to the gearboxes above each truck via worm gear shafts. Phosphor bronze contact strips pick up power from all eight wheels.

Above the split frame is the universal circuit DCC board. Three-pin motor models feature an analog 8½ board, while the board on DCC models has an Atlas N 8 socket decoder. Both boards have golden-white light-emitting diodes on each end.

Our model is decorated as Delaware & Hudson No. 228, the 3rd two-engine painted D&H on the Long

The Atlas/NCE AN/GM motor decoder sits on top of the split frame. Contact strips pick up power from all eight wheels.

N scale Atlas C-420 diesel

Price: Direct-current models $109.95; with Atlas/NCE motor-decoder $149.95

Manufacturer:
Atlas Model Railroad Co.
378 Florence Ave.
Hillside, NJ 07205
www.atlasrr.com

Era: 1963 to present

Road number: Low short hood: two road numbers each comes noted) – Delaware & Hudson, Delaware Lackawanna (one road number), and Lehigh Valley. High short hood (two road numbers each unless noted) – Buffalo Creek (limited edition, one number), Delaware & Hudson, Long Island (four numbers), National Ry. of Mexico (two numbers), Rutland & Saguenay, and Vermont Northern (limited edition, one number).

Features:

- Accurately sculpted couplers mounted at correct height
- All wheel drive and electrical pickup
- Blackened metal wheelsets, correctly gauged
- Die-cast metal split frame
- Five-pole skew-wound motor with brass flywheels
- Flat or setup plows as appropriate
- Four function DCC decoder
- Light emitting dowm headlights operate according to direction
- Weight: 2.6 ounces

Atlas N scale Atlas C-420

Railroad	Low short hood	High short hood

car will be found running their lines on railroads in a few places in the United States and Mexico. Atlas has done an excellent job capturing the rugged look of this four-axle road switcher in N scale.

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Product Reviews

Aro MR quick looks: MD scale hybrid I-3 4-6-4

Price: $400.00

Manufacturer:
Broadway Limited Imports
6 Logical Way, Ste. 2
Oriental Beach, FL 32725
www.broadwaylimited.com

Description: Metal-scaled, scaled MD steam locomotive

Comments: Two I-3 4-6-4 steam locomotives operate on the New York, New Haven & Hartford from 1937 until 1952. I witnessed the MD Broadway Limited Museum Series not heavy I-3 in the December 2007 Model Railroader. I was only somewhat impressed by Broadway's model, the Hybrid I-3 is made of metal and plastic components.

The Hybrid I-3 features many separately applied detail parts. All lettering and striping meet prototype norms.

Like the brass version, the hybrid I-3 features a Dim Quantum sound decoder. The sounds are top notch in both DC and DCC.

All the wheels are in gauge and the coupler on the rear of the tender is at the correct height.

The model has a five pole down-wound motor, and its performance matches the brass version. The I-3 pulls the equivalent of 18 MD scale passenger cars on straight and level track. The locomotive negotiated a 32 curve without problems.

The BLI hybrid I-3 is a great model of New Haven's approximately streamlined steamer. — J.K.

#8 Quick Lock: Wood HO and On2 I bridge

Price: $41.95

Manufacturer:
Model Structures for Model Railroads
4001 East Hendrix Street
Mesa, AZ 85205
www.modelstructures.com

Description: Assembled wood, metal truss bridge

Comments: A new manufacturer, Model Structures for Model Railroads, is entering the hobby market with a line of fully plastic bed bridges made of wenge, an exotic hardwood with a naturally dark finish.

Through our sample, a Warren truss span, is marketed as being appropriate for HO or On2 I railroads. A small III holder on the latter. In HO scale, the smallest windows would be 10 inches square and 10 feet long. It's modeled a truss bridge this big would have been built of wood.

The model's construction makes it quite durable. I supported the ends of the bridge on two

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• The Overlook Analogue HO F-40C leads a 100-ton sibling in the Utah Rail's original livery at East Junction. A lot like Tony Koester at his Palatine, Ill., always keeps the DEC scale tethered on in the greatest day-on-short-day Union Pacific relief for SP960/970s! A dual-mod in-turn-through on ten-tenner, he-tumbled a tumbleplane to keep running the 4-ten locomotive needed. A shelf-mounted and a one-through agreement with the '49 did the trick. Give-and-take the glasses.

More on ModelRailroader.com

Kris Wiedmann's photos of the HO scale Utah Rail RR at Kris's blog include a free computer wallpaper. You can download it from our website, www.ModelRailroader.com.

BAGGAGE

Operations on the micro and macro level

Steve Kolesnik

Do you lean toward a "micro" point of view, where switching cars is the focus, such as in this photo on the Canadian Pacific by Steve Kolesnik, or a "macro" approach, where realistic train movement is the emphasis?

Recent conversations with several modelers made it clear to me that there's some confusion about the basics of "realistic operation." For example, two visitors asked whether it was okay to run cards or waybills.

That's an apples-to-oranges question, as it's like a mechanic and tool: a shop can call "realistic operation" as understand the considerable performance between forwarding cars and running trains — what Bill Darnaby accurately calls "micro" and "macro" operations.

Micro-operations are focused on the forwarding of individual cars. Macro-operations embrace the movement of complete trains. Millions of modelers are used to accomplish these tasks.

A freight car's journey between origin and destination typically has almost three stops as it progresses toward where a shipper requests an empty car from the railroad. A suitable car is loaded by the shipper and the car departs our order. When the car is loaded, the shipper prepares a bill of lading, which goes to the railroad's agent. (We usually send this using an online system.) The agent sent the information on the bill of lading to prepare a waybill. The car's crewing now has an agreement for the shipper to be set up in the system.

While the car is under agent's, it's often given back to a "home road" car (switch) or a "home road yard." If it's needed for loading at a point on its home road, it can be "captured" with an empty car order and routed to a shipper as long as the load will power the car to the general direction of home road.

Especially, it's never efficient to deal with every car's origin and destination individually. Railroads group cars by destination into "blocks" — cars headed to or beyond a specific city or connection. An entire train can be loaded toward a single consignee, but more often a freight train includes several blocks.

If the cars are destined for the town where the classification yard is, they're sometimes called "peas-on" and delivered by the railroad's own switch crew(s). If they're destined for a town between their current location and the next terminal point, they're usually called "clears" and delivered as a block and if they're destined for the next major railroad terminal, they're often called "throughs" and put on a through freight.

Property-carrying cars and locomotives are usually put on their railroad or local freights that move across the country or world as the railroads can manage.

To know the trains requires more than just watching trains. We are model railroaders, so we have a "blame user" license and aren't restricted to a fixed route or by radio. It can be based on a reasonable work scheme, sometimes called train orders or as more accurate times, as could necessary. We in can borrow a form of Transcontinental Traffic Protocol where we break signals control the dispatcher's instructions.

The simplicity overview points across a few good ideas. Two basic ways that three of us who build railroads with realistic operation as most well as approach this goal. The ladies who enjoy watching work to focus on the maintenance of right car — what Bill calls macro operations. The ladies who like big-picture railroading what to focus on the maintenance of the trains these cars are blocked into — the macro here.

Either way — more or more or most models aspects of both — the point is to find ways to maximize enjoyment. As long as you're not wasting, while you're operating, you're doing fine. MR

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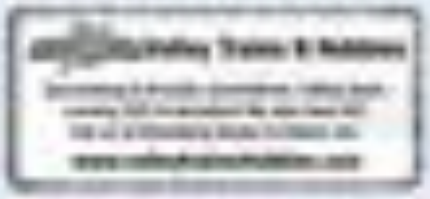

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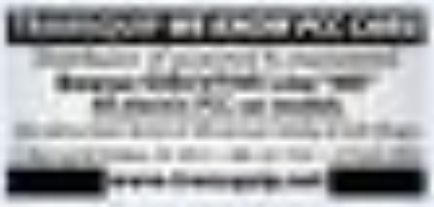

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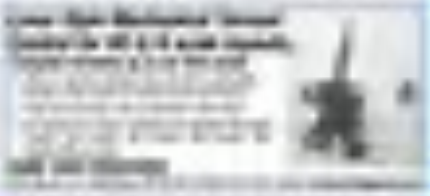

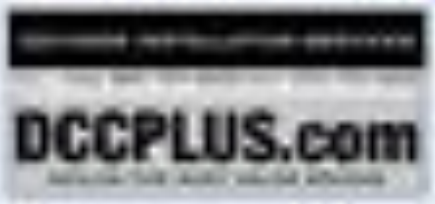
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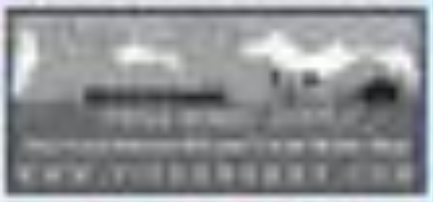

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Andy Kaminsky

Running pusher engines, part 2

This Milwaukee, Boston & Troy 2218 has had the space behind its coupler knuckle enlarged with a no. 61 drill bit to accept a .032" brass pin. This removable pin holds the knuckle open so the diesel can pull from the train it's pushing on the fly at the grade's summit. AK photos/video

Pusher engineers need access and brakes to model railroad operations, and as I explained in last month's column, can be modeled with a high degree of realism. The basic requirements are mechanical reliability and pusher cars that the train won't sadly send the pusher's body to make the grade, and that the pusher can't derail the train on the way either. That into the road and pusher engines work as hard as necessary with no pushing or pulling cars off the track.

Pusher engineers. In my explorations of pusher operations last month, I was assuming that the pusher would operate independently under control of its own engineer. With Digital Command Control (DCC), it's extremely possible to run a pusher as part of a consist with a lead engine, even though the locomotives are separated by all or part of the train. While this could be appropriate if your goal is to represent modern distributed power (DP) operations, there are several reasons that it's not such a good way to run most traditional pushers.

One important consideration is that with an independent engineer, there's no need to adjust matching the pusher and lead engines. The pusher engineer uses only the pusher's sound, especially since the lead pusher on the engineer can make their engines work together.

Also, if you use dumb engines for pusher service, you may find the idea of connecting those engines just right and the wrong way. Multiple unit (MU) operation is great for decoder and electronics, but in the age of heavy, every decoder-equipped locomotive can become a point of failure. Even many of the newer locomotives with decoder-ready sound and control functions for operating multiple (lead) units, that don't want to operate when dissimilar units are coupled together.

Action on the hill. Where the train reaches the summit of the grade, the value of the independent pusher engineer will become immediately apparent.

The engineer in the lead will want to cut the pusher locomotive out of the train. If the pusher has a rule in ahead of the caboose or in the middle of the train, the pusher engineer can use the engine to help get the train back together to continue on its way.

If the pusher is behind the caboose and will cut off on the fly, perhaps using a more complex route to keep the train open, the independent pusher engineer has ready to slow down and let the train ground over the caboose as it runs. See the photos above for one way to handle this on your model route.

With the big loads, conductors need to position operations—that's hard—and crewmembers are under tight crew-limit time-crippling limits on a locomotive could retrieve the pusher train, the new job hires. The pusher then departs, uncoupling the coupler knuckle to open and its brakes were applied automatically when the brake hoses parted.)

Coming back down. However the pusher separates from the train, it will return to the helper base as soon as possible, perhaps after running on a line as far-flung as the terminal. These engines operate as trains in their own right, and observe most of railroad's rules that relieved runs like other movements. You'll need an engineer on the pusher to run that engine back down the hill.

Under the rules. Speaking of which, when it's helping to move a pusher engine is merely a part of that train under the rules. A timetable and train order authority is in effect. The pusher crew gets copies of all the clearances and train orders addressed to the train. If meeting or passing instructions, the pusher engineer keeps the track pusher in and alerts the road engineer to control the train's speed. Remember, on the road engine design, the pusher will stall, since it can't reverse the train on its own. If the pusher fetches radio communications, the pusher engineer should not ask for train specifications from the road engine or the pusher's air gauges.

For the return trip, the light engines would ordinarily run as a train to their origin or maintenance point. If a caboose was used it allowed the enterable special moves as a road foreman. The extra cuts that occurs is a liability on the big roads, but the pusher railroads it's welcome with little service. In any case we want to prepare for the pusher engineer to enjoy operating independently, instead of just being part of a train that needs help.

Pusher again. Back at the helper base, the pusher engineer now sees the engine as an additional track at the engine terminal, or moves it to a yard track to await the next call. From a well-planned service engineer, a diesel engine would usually have no reason without both trains before making another storm up the hill. Depending on how one approaches various, the pusher engineer might take the next call off the board, or may stand by for the next train that needs help on cross railroad's big grade.

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The Powhatan Arrow set is a must for O scale enthusiasts! The [illegible] Car is just one of five featuring the Norfolk & Western's heritage paint scheme, complete lettering, interior details and interior lighting which can be switched on and off using a switch on the car's underside. This set was painstakingly researched to bring you the finest set of O scale passenger cars ever produced. We examined thousands of photos and drawings including the actual shift cards in order to recreate the correct paint colors. This set will be completed with the release of our streamlined class 'J' 4-8-4. Exquisitely handcrafted in brass by Ajay Precision of Korea.

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